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ABSTRACT

Occupational licensing has received renewed attention in America. This document examines the practices of licensing boards and the criteria they use. Licensing procedures were analyzed by the Educational Testing Service with reference to the following points: what is licensed and where, who does the licensing, what are the requirements, how is competency tested, what about applicant failure, transfer of certification, minority goup membership, and future expectations. The four occupational areas compared are health occupations, construction trades, service occupations, and transportation occupations. The report comments on the appropriateness and effectiveness of performance tests and written tests. Discrimination in testing procedures and the validity of testing criteria are considered. The study concludes that the licensing structure must be modified and improved so that it may serve its societal function and provide fair and equitable treatment to those who are licensed. Among the possible modifications suggested by the researchers are improved testing procedures, job analysis, validity studies, language assistance, and procedures for candidates who fail. A reference section is also included. (JC)

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OCCUPATIONAL LICENSING AND PUBLIC POLICY

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FINAL REPORT

to

MANPOWER ADMINISTRATION
U.S. DEPARTMENT OF LABOR

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TABLE OF CONTENTS

PREFACE i

I LICENSING AND PUBLIC POLICY 1

II LICENSING IN HEALTH OCCUPATIONS

What Is Licensed and Where? 16
Who Does the Licensing? 19
What Are the Requirements for Licensure? 29
How Is Competency Tested? 38
What If an Applicant Fails? 51
What If One Should Move? 58
What Happens to Minority Group Members? 62
Hopeful Signs of Change 74

III LICENSING IN CONSTRUCTION TRADES 101

What Is Licensed and Where? 103
Who Does the Licensing? 112
What Does It Take to Be Licensed? 122
How Is Competency Tested? 141
What Happens If an Applicant Fails? 155
What If One Should Move? 169
What Happens to Minority Group Members? 178
What Can Be Done to Improve the Situation? 195

IV LICENSING IN SERVICE OCCUPATIONS 200

What Is Licensed and Where? 200
Who Does the Licensing? 204
What Does It Take to Be Licensed? 209
How Is Competency Tested? 220
What If an Applicant Fails? 240
What If a Licensed Operator Moves? 250
What Happens to Minority Group Members? 257

V LICENSING IN THE TRANSPORTATION FIELD 268

Airplane Mechanics 269

What Does It Take to Be Licensed? 271
Who Does the Licensing? 274
How Is Competency Tested? 276
What Happens If an Applicant Fails? 284
What Happens to Minority Group Members? 285

Merchant Marine Officers 288

What Does It Take to Be Licensed? 291
How Is Competency Tested? 292
What Happens If an Applicant Fails? 300
What Happens to Minority Group Members? 301

Over-the-Road Drivers 304

Hopeful Signs of Change 308

VI HOW GOOD ARE LICENSING TESTS? 313

Written Tests 316
Performance Tests 321
What Can Be Done to Improve the Situation? 323
Discrimination in Testing 328

VII STRATEGIES FOR CHANGE 342

Licensing Boards 345
State Governments 362
Professional and Trade Groups 390
Community and School Groups 393
Federal Government 397

REFERENCES 414

PREFACE

Occupational licensing involves a paradox. On one hand, licensing restricts the freedom of the individual, a concept we hold sacred in America. Yet licensing is intended to serve the overriding purpose of protecting the health and safety of the many. For this reason people have come to accept without question the licensing of those who practice medicine, dispense drugs, nurse the sick, extract teeth, fit eyeglasses, cut hair, build houses, and bury the dead.

The growth of licensing in America has been a haphazard, uncoordinated, and chaotic process. Pleas for licensing a new occupation have seldom come from the public or in response to a clearly demonstrated need. More usually the legislative bodies of the states and even of municipalities have heeded the special pleas of the practitioners that public harm *might* result if steps were not taken to regulate the occupation. Legislation has often been passed with little thought to the conflict of interest created by placing controls in the hands of the very group that was to be regulated. Yet, whenever a new piece of licensing legislation is passed, it almost always involves the creation of a regulatory board made up of practitioners of the very occupation or profession in question. Thus they are left to "regulate" themselves and their peers.

Licensing boards have frequently had wide latitude in interpreting eligibility requirements, setting fee schedules, preparing examinations, and engaging in other activities that may serve to exclude would-be practitioners. Decisions on these matters have often been made by state and local boards from a rather provincial viewpoint (their reasoning seems to run along the lines that "what is good for our profession is good for the community") without regard for the implications these decisions may have on the national supply of manpower or on efforts by the government and other agencies to help members of disadvantaged groups improve their situations. Moreover, members of licensing boards have seldom recognized that licensing requirements may have ramifications which go far beyond the individual. In education, for example, licensing requirements may exert a significant impact on the curriculum as well as on the duration and cost of training. Variations in licensing requirements from one locality to the next may inhibit the mobility of skilled workers. This, in turn, can influence the geographical distribution of manpower resources.

The societal aspects of licensing, accepted for so long almost without question, need to be examined. Do the requirements for licensure—especially the examination procedures utilized—protect the public by insuring that only qualified practitioners will be licensed? Is there adequate provision in the licensing process to insure that all licensed persons maintain their requisite skills in the face of rapidly changing technology?

Answers to the questions just raised have not been available because until 1967 little attention had been paid to occupational licensing. Considering the importance of licensing, literature in the field is unbelievably meager. There have been periodic surveys by the Council of State Governments,[23, 24] utilizing mail questionnaires primarily, which have yielded a considerable amount of quantitative data but little in the way of qualitative information or insights into the dynamics of licensing. From time to time, studies of licensing within a single state have been undertaken. For the most part, however, these have been descriptive in nature and have been relatively uncritical of the licensing process. Notable exceptions have been studies of licensing in California[11] and in New Jersey,[25] which recommended that a number of boards be abolished and that certain other boards be consolidated. Nonetheless, few of the studies done have raised such fundamental questions as: Why do we have occupational licensing? Who really benefits from licensing? What impact does licensing have on various societal goals? What other approaches might be used to accomplish the same objectives without restricting the freedom of individuals to enter certain occupations?

In 1967 the Manpower Administration of the United States Department of Labor granted funds to Educational Testing Service (ETS) to study the feasibility of investigating nationally the impact of licensing practices on the availability and mobility of nonprofessional manpower in occupations where skill shortages existed. This study was intended to develop procedures for gathering information about licensing. Five states were selected for study (New York, Illinois, California, Texas, and Florida). These states were chosen to provide regional diversity. Each is the largest state in its region. Taken together, these states have a population of nearly 65 million—almost one-third of the entire nation.

The pilot study involved field interviews with licensing officials in each of the five states. Educational Testing Service's investigators endeavored to learn not only about the statutory requirements for licensure, but also about the nature and composition of licensing boards, how they operated, how various requirements were interpreted, how examinations were prepared and administered, and how complaints were handled.

The report stemming from the pilot study [29] raised many more questions than it answered, but it pointed up a wide variety of problems that had heretofore received little or no attention. For example, some of the usual requirements for licensing, such as age, sex, education, and citizenship were often found to be quite arbitrary, bearing little or no relationship to the declared purposes of licensing. The information about licensing that was available to candidates was often couched in obscure, legalistic language. Examination procedures—on which the whole edifice of licensing seems to rest—were judged to be wholly inadequate in terms of currently acceptable professional practices and standards. Many boards were found to be indifferent to the plight of those whose native language is other than English. In addition to licensing and examination fees and the cost of training, hidden costs, such as income lost during training and the cost of travel to and from the examination site, were identified. These might easily work a hardship on those from disadvantaged backgrounds. Especially significant from the viewpoint of manpower utilization were the formidable barriers to mobility that licensing regulations were found to pose for skilled workers. There were obstacles to the movement of skilled workers not only from one state to another but also within a single state.

The study pointed to the need for further information about many aspects of licensing, especially about licensing at the local level. What is the relationship between state and local licensing? What is the relationship between licensing and training? How do vocational educators, union officials, employers, and workers in licensed occupations view licensing? What impact does licensing have on the efforts of minority groups and others who are disadvantaged to gain entry into skill-shortage occupations covered by licensing?

At this point, the Department of Labor decided to commission two complementary studies—a second one by ETS and the other by the School of Labor and Industrial Relations at Michigan State University. The ETS study was basically an expansion of the pilot study: the sample was expanded by adding three smaller states (Arizona, Alabama, and Oklahoma) in order to determine whether there were any significant differences in the licensing practices and procedures of smaller and larger states. It should be noted that each of the additional states was contiguous to one of the large states in the original sample. This also provided an opportunity for studying problems of interstate mobility.

The cities in each state (24 in all) selected for intensive study were:

Montgomery, Birmingham, and Huntsville (Alabama)
Phoenix, Mesa, and Tempe (Arizona)
Los Angeles, San Francisco, and Sacramento (California)
Jacksonville, Tampa, and Miami (Florida)
Chicago and Springfield (Illinois)
Albany, Troy, Rochester, and New York City (New York)
Tulsa, Oklahoma City, and Muskogee (Oklahoma)
Austin, Houston, and San Antonio (Texas)

The major focus of the ETS studies was on those nonprofessional occupations in which shortages of skilled manpower were known to exist. These included plumbers and electricians in the construction field; practical nurses, dental hygienists, and ophthalmic dispensers in the health field; airplane mechanics; and officers aboard ships in the United States Merchant Marine. In addition, it was decided to broaden the scope of the study by including two service occupations, barbering and cosmetology, although these were not identified as skill-shortage occupations.

Many other occupations licensed by state or local governmental units were encountered in the course of field investigations. A number of these occupations, such as stationary engineers, welders, and operators of heavy construction equipment, were investigated and the findings incorporated into this report. Others, such as watchmakers, hearing-aid dispensers, shorthand reporters, exterminators, dry cleaners, refrigeration repairmen, masseurs, fence installers, funeral directors, private investigators, and mobile-home servicemen, have not been dealt with in detail in this report because the findings appear to have somewhat less relevance to the manpower and public safety implications of the investigation. However, the list does serve to emphasize the investigators' conclusion that there has been a vast proliferation of licensing which is likely to continue until meaningful criteria are established to determine when it is appropriate to license an occupation and when other methods of control may be more suitable.

The field investigations, consisting primarily of semi-structured interviews, were conducted mainly by behavioral scientists on the ETS staff. In addition to the principal investigators (Benjamin Shimberg and Barbara F. Esser), assistance was obtained from members of the ETS professional staff attached to its field offices. These included Donald Hood (Austin, Texas), Robert Lambert and Santelia Knight Johnson (Berkeley, California), Ivor Thomas (Los Angeles, California), John Dobbin (Redington Beach, Florida), and Chandra Mehrotra (Evanston, Illinois). Whenever possible, interviewer characteristics such as race were matched with those of the respondents to minimize possible bias from this source.

All of the staff members were trained in the use of the semi-structured interview guides which were developed especially for the study. These guides were designed to cover all pertinent topics and to obtain certain types of information in a systematic way, but at the same time to allow the interviewers to pursue unplanned lines of inquiry whenever opportunities presented themselves. Emphasis throughout was on gaining insights into the qualitative aspects of licensing rather than on collecting quantifiable data. Approximately 300 individuals were interviewed in the course of the ETS surveys.

The Michigan State University study was directed by Daniel H. Kruger with the assistance of Larry Cashdollar and Richard Santos. Its primary purpose was methodological—to devise procedures that might be used in collecting quantifiable data about various licensed occupations on a nationwide basis. Pilot projects were conducted in three states: Michigan, Ohio, and Georgia. While the results of these studies are not included in this volume, a limited amount of information about the licensing practices in the states covered by the Michigan State University survey has been cited, where appropriate, to supplement the data collected by the ETS staff.

This book is divided into seven chapters. In Chapter I, the authors present a broad overview of licensing, with special emphasis on its implication for public policy. In a sense, Chapter I lays the groundwork for the chapters that follow by asking questions about the need for licensing and as to whether licensing adequately performs its alleged function of protecting the public.

The next four chapters discuss various aspects of licensing in specific fields: the construction trades, the health field, service occupations, and the transportation industry. For each of these fields a series of questions is posed: Which occupations are licensed? Who does the licensing? What are the requirements for licensing? How is competency tested? What happens if an applicant fails? What if one should move? Related topics such as manpower implications and the impact on minority groups are also discussed. Finally, the authors call attention to any hopeful signs of change and discuss proposals that have been advanced for dealing with some of the problems which have been identified.

Chapter VI deals with the measurement of competency in broad terms and introduces a number of basic measurement concepts that cut across the licensing of practitioners in a variety of fields. This chapter also raises questions about the significance of the guidelines promulgated by the Equal Employment Opportunity Commission for the operation of licensing agencies.

The final chapter seeks to integrate the problems and issues raised and to present action-oriented recommendations directed toward the agencies or groups best able to implement them. One part of this final chapter deals specifically with the role of the Federal Government; others, with the roles of licensing boards, legislative bodies, professional and trade groups, and community groups in bringing about needed changes in the institution of licensing. Throughout there is a focus on societal aspects of licensing as well as on its impact on the individual. The recommendations for improving licensing emphasize ways in which the rights of individuals will be more adequately safeguarded and the needs of society met in a more satisfactory way than at present.

It is the hope of the authors that this book will convince thoughtful citizens—especially those in policy-making positions—that the institution of occupational licensing needs to be re-examined critically, not only in terms of its avowed purpose, but also in the light of its intentional and unintended side effects.

The authors urge public-interest, research, and action groups to conduct studies of their own and take action in the public interest whenever they find that licensing is not doing its job. Criteria are urgently needed to help legislative bodies decide when it is appropriate to license new occupations and when it may be appropriate to repeal licensing legislation that is already on the statutes. Above all, a critical, watchdog attitude must be created in the minds of responsible citizens so that, in the future, no vested interest group will be able to use the powers of the state to serve its own ends under the guise of serving the public.

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September, 1972

LICENSING AND PUBLIC POLICY

The terminology of licensing can be confusing in the extreme. One hears about licensed plumbers, electricians, and practical nurses; certified public accountants; and registered nurses and pharmacists. What all these occupations have in common is that they are regulated in some way by state law or local ordinance. In some instances, an individual is prohibited by law from engaging in a certain occupation unless he has been specifically authorized to do so. In others he may engage in the occupation without specific authorization, but he is prohibited from using certain terms in describing himself to the public.

Licensing is a generic term which encompasses all forms of regulation that give the licensed practitioner the legal authority to engage in his occupation or profession. The Council of State Governments has defined licensing as:

> ...the granting by some competent authority of a right or permission to carry on a business or do an act which would otherwise be illegal. The essential elements of licensing involve the stipulation of circumstances under which permission to perform an otherwise prohibited activity may be granted—largely a legislative function; and the actual granting of the permission in specific cases—generally an administrative responsibility.[23]

Most licensing is mandatory—that is, those who practice a profession or occupation must be licensed. In some instances licensing is mandatory only for those who use a particular title. For example, in California anyone may provide bedside services of the type usually performed by practical nurses. One is allowed to call oneself a practical nurse, but not to use the title "licensed practical nurse" unless one is licensed. Similarly, in many places engineers may work at their profession, but they may not call themselves "professional engineers" unless they have been certified by the appropriate state board.

The term "R.N." refers to the registration of a nurse by a state board of nursing. This means she has completed an approved training program and has passed the state nursing board examinations. The R.N. designation can be applied to graduates of non-degree programs associated with hospital-based schools of nursing, of associate-degree programs in community colleges, and of bachelor's-degree programs.

The terms "certification" and "registration" are sometimes used as if they were synonymous with licensing. In the layman's mind there may not be much difference, but technically speaking the difference is significant. As noted earlier, licensing repsents a legal right of an individual to engage in an occupation. It is a right or privilege conferred by some agency of government. Certification or registration, by contrast, rarely implies governmental or legal sanction. It is a nongovernmental mechanism for granting recognition to certain individuals within an occupation or profession. A recent Report on Licensure and Related Health Personnel Credentialing issued by the U. S. Department of Health, Education, and Welfare describes certification or registration as:

> ...the process by which a nongovernmental agency or association grants recognition to an individual who has met certain predetermined qualifications specified by that agency or association. Such qualifications may include: (a) graduation from an accredited or approved program; (b) acceptable performance on a qualifying examination or series of examinations; and/or (c) completion of a given amount of work experience.[23, p.7]

The mechanics of certification follow two basic patterns. Sometimes a professional association will handle certification, as is the case with dietitians, medical record librarians, and occupational therapists. The other approach is through the creation of an ostensibly "independent" agency by one or more professional groups. An example of this type of arrangement is the Board of Registry of Medical Technologists. This group is closely associated with the American Society of Clinical Pathologists (A.S.C.P.). Indeed, the tie is so close that another group, the American Society of Medical Technologists (A.S.M.T.) has brought legal action against A.S.C.P. on the ground that

A.S.C.P.'s control of the Registry places the profession of medical technology under the control of the pathologists, who also happen to be the principal employers of medical technologists. The A.S.M.T. is trying to end what it regards as a highly undesirable situation.

Another registry is the American Registry of Inhalation Therapists, sponsored by physicians and inhalation therapists. The American Registry of Radiologic Technologists utilizes similar sponsorship by physicians for members of this occupational group.

Outside the medical field, there are a number of voluntary certification programs related to various business and professional activities. In the field of life insurance, for example, the designation "C.L.U." stands for Chartered Life Underwriter. The C.L.U. certificate is awarded by a nongovernmental, nonprofit organization called the American College of Life Underwriters. To earn the C.L.U. diploma, an applicant must first pursue a course of study defined by the College and then pass a 2-hour examination in each of the 10 courses included in the program. In addition, he must meet certain character and experience requirements specified by the Board of Trustees of the College.

Still other voluntary certification programs include the National Association of Security Dealers, the Institute of Chartered Financial Analysts, the American Institute of Real Estate Appraisers, the National Architectural Registration Board, the

Ryder Mechanics Certification Program, and the Institute of Certified Travel Agents. In addition, there are medical specialty boards which identify "diplomates" in such fields as internal medicine, obstetrics and gynecology, psychiatry, pediatrics, and surgery. In the field of psychology, the American Board of Professional Psychology awards diplomas in such specialties as industrial and organizational, clinical, counseling, and school psychology.

This study is focused exclusively on mandatory licensing programs rather than on the voluntary certification programs sponsored by professional groups and independent certification agencies. Under mandatory programs, one may not engage in a given occupation unless he has been authorized to do so by an official national, state, or municipal agency. The voluntary certification programs do not prohibit anyone from engaging in a certain occupation, but they do provide a way for the public to identify certain individuals who have passed certain tests and met certain other requirements from among a larger number of practitioners. Since these programs are voluntary, one cannot assume that all certified practitioners are necessarily more competent than those who are not certified, since some highly qualified people may be opposed to certification and may simply refuse to present themselves for examination. However, certification does provide some assurance that an individual has at least met certain standards.

Why do We Have Licensing?

What is the justification for mandatory licensing? Those who advocate it nearly always argue that licensing is necessary to protect the public. They maintain that certain occupations are so closely associated with public health and safety that without a form of regulation the public would have no protection against incompetent practitioners who might do serious harm. This is the justification used to license such occupational groups as plumbers and electricians. In the case of plumbers it is maintained that the improper installation or repair of a waste-disposal line could lead to the contamination of a community's water supply. Thus, only qualified individuals should be allowed to work on any type of plumbing system. Moreover, those who take this line of reasoning insist that licensing is a matter for a governmental regulatory agency since the general public is not equipped to judge whether an individual is qualified by training or experience to perform plumbing services. Likewise, the average person would not be able to determine whether an individual offering his services as a doctor, dentist, or pharmacist is sufficiently well trained in his specialty; thus boards are established to investigate the qualifications of would-be practitioners and to examine them appropriately. Only those found to be competent are granted a license authorizing them to engage in their occupation. Anyone seeking the services of a licensed individual has at least some assurance that such a practitioner was deemed by an examining board to possess the necessary minimum amount of competence at the time he was granted his license.

Proponents of licensing tended originally to limit regulation to the fields that appeared to have a fairly direct bearing on public health and safety. However, in recent years many new occupations have been subjected to regulation—ostensibly to protect the public from fraud or from incompetent practitioners, even though the relationship of the occupation to public health and safety is often tenuous and the dangers to the public hypothesized rather than demonstrated.

As licensing has evolved, the agencies designated to administer the basic legislation and to be responsible for determining the qualifications of applicants have assumed the additional responsibility of policing the field to prevent unauthorized persons from practicing. They have frequently been given the authority by law to suspend or revoke the license of any practitioner who fails to uphold accepted standards or engages in unethical practices. In the exercise of this last function, the licensing agencies have assumed a quasi-judicial role.

A significant characteristic of most occupational licensing is that the regulatory agency is usually composed of practitioners from the trade or profession in question. The impetus for licensing has seldom if ever come from the public in response to a demonstrated need, but rather from associations of practioners who have usually sought themselves to secure the passage of regulatory legislation. In order to understand how this phenomenon developed and why it is so important, one needs to examine the evolution of occupational licensing in the United States.

The Origins of Licensing

As early as the nineteenth century, medical societies and similar groups became interested in raising standards and establishing codes for ethical behavior. Such codes were intended to define proper relationships among practitioners and between each practitioner and others in the community. These societies also set up qualifications for membership, stipulated the type and extent of training required, prescribed conditions of employment, set up conditions required for maintenance of status within a given society, and stipulated circumstances under which membership might be revoked.

The underlying motives for the self-regulatory mechanisms adopted by various occupations were not entirely altruistic. By forming an association and then developing a code of ethics, a group sought to gain for its members as much status and compensation as the community could be induced to give it. From voluntary regulation it was just a short step to statutory licensing, for the groups involved recognized that official licensing would give legal sanction to their codes of ethics and requirements for membership. The existence of licensing created a legal register of qualified practitioners. The unqualified could be denied admittance and the police power of the state could be used to enforce such exclusion.

Another significant development that emerged from the origins of licensing in professional associations was the trend toward self-regulation by members of an occupational group. Those working in a given profession or occupation wanted control handled by peers who would be likely to understand the peculiar attitudes, the working conditions, and the problems of their own group. It is no accident that many of the licensing laws in force today specify that members of a licensing board must be appointed from a list of names submitted by the relevant professional or trade group. These provisions for the appointive power give legal sanction to the concept of self-regulation by an occupational group.

In recent years many new occupational groups have actively sought to be licensed. The justification given is usually that licensing is necessary to protect the public; yet, if one reads professional or trade publications or attends meetings of the practitioner group, one is likely to learn that licensing is often promoted as a way to enhance the status and the public image of the group. Not so loudly heralded but certainly as important an incentive is the economic benefit that often accompanies licensure. Practitioners recognize that after licensing has been achieved, those who are licensed, including those covered by a "grandfather clause," will enjoy a secure position. The grandfather clause concept refers to the fact that, although a licensing board may subsequently require newcomers to pass rigorous examinations and meet high training standards, those already practicing at the time licensing is introduced are frequently exempted from these requirements. Once licensing is in effect, unauthorized practitioners can be restrained from encroaching upon the protected domain of the licensed practitioners. Should complaints ever come from clients or customers, licensed practitioners are assured of a sympathetic hearing from a board composed of peers who understand the problems faced by fellow members.

It is not at all surprising to find that various trade and professional groups have been willing to invest substantial sums and that their members have willingly submitted to special assessments for lawyers and lobbyists in an effort to achieve licensing. In view of this, it seems appropriate to inquire whether the institution of licensing as presently constituted can effectively give the public the vital protection the many licensing agencies existing at the federal, state, and local level are nominally supposed to provide.

Enacting Licensing Legislation

Although the rhetoric of licensing places much emphasis on protecting the public health and safety, in practice the public has little to say about enacting licensing legislation. The sponsoring group usually drafts the legislation and then has it introduced by a friendly legislator. Members and friends participate in an organized letter-writing campaign to support the legislation; practitioners and paid lobbyists call on legislators in person to obtain commitments for the law. When the hearings are held, expert witnesses can be summoned to lend their prestige and technical knowledge to the legislative effort. The public is all but forgotten. Concerned citizens who may be opposed to the legislation rarely have the financial resources to initiate a countercampaign. Thus, legislators are likely to hear only one side of the issue and to mistake a lack of opposition as tacit assent on the part of the public.

Without any formalized criteria to guide decisions related to what should or should not be licensed, a legislator is at a serious disadvantage when called upon to decide about any group seeking licensure. On what basis can he vote for the licensing of one group and against the licensing of another? It was precisely this dilemma that prompted Governor Richard Hughes in 1968 to request a moratorium on all new occupational licensing in New Jersey pending a thorough review of the situation by a legislative commission and the development of meaningful criteria to guide future decisions in this area.

The Role of Licensing Boards

The dual role of most licensing boards is a matter of the utmost importance. On one hand, boards serve as gatekeepers to determine the qualifications and competence of applicants. On the other, they must see that standards are adhered to by practitioners and, when necessary, adjudicate disputes between the public and members of the regulated occupation. Given the composition of the boards, it is almost impossible for them to function effectively as both licensing and enforcement agencies. This can hardly be the best way to protect the public interest.

The degree to which self-regulatory boards are capable of recognizing and acting on problems in a broad context rather than in the context of what their constituents perceive as their best interest also deserves scrutiny. Critics of licensing have asserted that the parochial view of many licensing boards, especially in the health and construction fields, has aggravated our manpower problems. The fragmentation of certain health occupations into numerous subspecialties may be interfering with the optimum utilization of manpower. In the construction field, restrictive practices related to apprenticeship, reinforced by unduly severe licensing requirements, have made it difficult for members of minority groups to utilize their skills fully or to realize the expected economic benefits of their training.

It should by now be clear that the authors believe that occupational licensing poses many important public policy questions. To what extent should the power of the state be used by certain occupational groups to further their own ends? On what basis should one decide when it is appropriate to regulate a given occupation? The public interest must constantly be balanced against private interests and the rights of individuals. Whatever mechanisms are established to regulate particular occupations, those in positions of power must be held accountable for their activities, for what licensing boards do or fail to do may well affect an individual's opportunity to earn a livelihood through the practice of his occupation.

II

LICENSING IN HEALTH OCCUPATIONS

The licensing of health occupations was initiated primarily in an effort to combat quackery. Professional organizations, such as the American Medical Association, the American Dental Association, and the American Pharmaceutical Association advocated licensure as far back as the early nineteenth century. However, it was not until the early 1900's that a significant number of licensing laws relating to the health occupations were enacted. Between 1910 and 1919, approximately 130 statutes regulating 14 professions were passed.

According to a publication of the United States Public Health Service, State Licensing of Health Occupations[32] in 1967 there were 25 licensed health occupations regulated by a total of 794 statutes in the various states and the District of Columbia. All states now require the licensing of physicians, dentists, pharmacists, professional nurses, practical nurses, physical therapists, optometrists, dental hygienists, osteopaths, podiatrists, and veterinarians. All but a few states also license chiropractors.

Many other health occupations are regulated by one or more states and the number is likely to increase as the emerging allied health specialties look to licensure as a way to achieve greater recognition and status. In many states, associations of those in the allied health specialties are actively working for licensure. Among the occupations for which licensing is being sought on either a national or a state basis are physical therapy assistant, medical laboratory technologist, inhalation therapist, occupational therapist, psychiatric technician, physician's assistant, radiologic technician, and biomedical technician.

The proliferation of licensed subspecialties is creating an administrative nightmare for hospital administrators. Increasingly, complaints are being made that fractionation of specialties will inhibit the optimal utilization of health manpower and add to the cost of health services.

Writing in Hospitals, the journal of the American Hospital Association, Egelston and Kinser [9] have noted some of the consequences of licensing narrow specialties:

> When licensing requirements for an occupation are so rigid and the scope of practice so narrow, occupations run the risk of structuring themselves out of the market. Some of the emerging occupations seem to be filling such voids. Modern diagnostic and treatment procedures will support good practice by the flexible occupations. Employers must have some freedom to use personnel in flexible work arrangements. Job changes, job enlargement, and job upgrading all require flexibility in manpower education and use.
>
> The result is that hospitals use unlicensed individuals to perform duties that legally or traditionally

> are defined as licensed tasks. The shortage of licensed personnel, as defined by the law, encourages violations of the law by both employers and employees. In fact, strict compliance with the law would close many hospitals. 9, p. 37

The matter of licensing hospital personnel has been receiving a great deal of attention from professional associations, government agencies, health manpower specialists, and members of both state and national legislatures. The authors have made no attempt to investigate the impact of licensing in the hospital setting, a task clearly beyond the scope of the project goal. Concentration was put on three occupations in the health field: practical nurses, dental hygienists, and ophthalmic dispensers. Information was also collected about certain other licensed occupations, including physical therapists and medical laboratory personnel. However, data on these proved to be so fragmentary that it was decided not to attempt to deal with them in this report.

WHAT IS LICENSED AND WHERE?

Practical Nurses: All 50 states license practical nurses, also referred to as vocational nurses. In 6 of the 11 states covered by the survey, licensing is permissive; in the others it is mandatory. In the permissive states (Alabama, Arizona, California, Ohio, Oklahoma, and Texas), anyone may provide the services typically performed by a practical nurse, but only those who have met specified requirements may call themselves Licensed Practical Nurses (L.P.N.) or Licensed Vocational Nurses (L.V.N.). In the other five states (Florida, Georgia, Illinois, Michigan, and New York), licensing is compulsory. This means that only persons who have a state license may engage in the field of practical nursing. Unlicensed personnel are expressly prohibited from working in the occupation. Even where licensing is permissive, employment for the unlicensed practical nurse is somewhat limited since most institutional employers (i.e., hospitals, nursing homes, and public health agencies) require applicants to have a license. Although the unlicensed practical nurse can work in certain institutions as a nurse's aid or attendant, the most frequent role is serving as a homemaker or caring for convalescents, the aged, and the infirm.

One of the interesting problems encountered with respect to practical nurses relates to those who were licensed on the basis of experience only. Such persons are frequently referred to as "waivered" practical nurses because the requirement that they pass an examination was waived at the time their license was issued. However, recent Medicare legislation has specified that only those licensed by examination are qualified to serve as "charge nurses." Since many charge nurses in nursing homes are holders of "waivered" licenses, a staffing crisis in many institutions has resulted. State boards of nursing have been acutely sensitive to the problem created by this law and in many cases have made special arrangements for the waivered nurses to be examined, thereby meeting the statutory requirement.

Dental Hygienists: All 50 states license dental hygienists. The first to do so was Colorado in 1889. The chief function of hygienists is to assist dentists by cleaning the teeth of patients and by teaching patients proper procedures of dental prophylaxis. Recently, their scope of practice has been enlarged to include the application of topical fluoride to prevent the development of dental cavities and the taking of dental X-rays. They work under the direct supervision of a licensed dentist and do not engage in independent practice.

Ophthalmic Dispensers: Practitioners in this occupation, sometimes referred to as dispensing opticians, fit eyeglasses in accordance with the prescriptions of oculists or ophthalmologists. A license is deemed necessary to assure the public that their lenses will be ground according to prescription and that eyeglasses will be properly positioned. In recent years, the scope of practice in some states has been enlarged to include the fitting of contact lenses.

Ophthalmic dispensing is licensed in 7 of the 11 states covered by the survey. Only Alabama, Ohio, Oklahoma, and Texas do not require licenses. Oculists, ophthalmologists, and optometrists may, of course, dispense glasses to their own patients since these specialists are licensed in their own right. It is interesting to note, however, that in many states the law permits a nonlicensed person to perform the functions of an ophthalmic dispenser if he works under the direct supervision of an oculist or an ophthalmologist.

WHO DOES THE LICENSING?

In each of the states surveyed, it was found that all licensing of health occupations took place at the state level.

Practical Nurses: The practical nursing occupation is, to a great extent, controlled by registered nurses. Of the 11 states covered by the survey, 8 have boards which are responsible for licensing both R.N.'s and L.P.N.'s. The exceptions are California, Georgia, and Texas.

In the group of state boards which license both kinds of nurses, licensed practical nurses are clearly in the minority in their board representation. For example, in Alabama, the board consists of one L.P.N. and 5 R.N.'s. In New York State, the board of examiners has 4 L.P.N.'s and 11 R.N.'s. In Oklahoma, the ratio is 5 to 3; in Florida, the ratio is 5 to 2. In Arizona, there is equal representation—5 R.N.'s and 5 L.P.N's. Michigan's board has 3 L.P.N.'s and 6 R.N.'s, while in Ohio the ratio is 3 to 8. The Illinois board of nursing has no bona fide L.P.N. representatives. On the 7-member board are 5 R.N.'s who are involved in nursing education and 2 R.N.'s who work in training programs for practical nurses.

In the states which have separate licensing boards for the two types of nurses, only Georgia allows L.P.N.'s to manage their own affairs. Its 5-member board is made up entirely of practical nurses. Appointments are made by the Governor from a carefully screened panel of 10 L.P.N.'s. The screening is done by an advisory committee made up of 3 R.N.'s, 2 representatives from the State Hospital Association, one representative from the State Medical Association, and one representative from the State Department of Vocational Education.

The Texas board has 9 members, 6 of whom are L.P.N.'s. The other 3 are: one medical doctor, one registered nurse, and one hospital administrator who may not be a medical doctor.

In California, the 11-member board serves a dual function. It is responsible for licensing L.V.N.'s and psychiatric technicians. The board consists of 5 L.V.N.'s, 2 certified psychiatric technicians, one medical doctor, one registered nurse, one hospital administrator, and one public school administrator.

Except for the State of Georgia, where the screening is done by an advisory committee, board members tend to be recommended to the governor or to the head of the agency responsible for licensing by the organization which represents the licensed occupation. This is usually the state nursing association or the state association of licensed practical nurses. The legislation covering licensing frequently stipulates that these groups must submit either 2 or 3 names for each vacancy to be filled.

Terms of office vary from 3 to 6 years. Several states prohibit a member from serving more than 2 consecutive terms. Boards usually meet 4 to 6 times a year, although some meet more frequently if circumstances warrant. Compensation is usually about $25 a day plus travel expenses, but in Florida the rate is only $12 a day.

Most of the boards employ an executive officer, one or more professional staff members, and as many clerical staff members as are needed to handle routine affairs. The executive officer and his staff administer the licensing program within the policy established by the board. This means that virtually all routine business is decided by the staff under the supervision of the executive director. Only when an unusual situation arises is an application likely to be presented to the board for its decision. A typical case might involve a foreign applicant whose training or experience fails to fit the established criteria or an applicant who has been previously involved with the police in some way.

While boards try to avoid any involvement in matters concerning initial applications (unless they require a policy decision or entail some unusual circumstance), they do become involved in disciplinary cases concerning licensed individuals. In New York State there is a separation of functions. All matters involving alleged violations of professional laws or board regulations are investigated by the Division of Professional Conduct. Among the reasons justifying revocation or suspension of a license in New York State are immorality, incompetency, violation of some provision of the law, fraud or deceit in obtaining licensure, conviction of a felony, habitual drunkenness, drug addiction, or mental incompetence. Unprofessional conduct can also become grounds for disciplinary action.

In addition to establishing licensing policies and hearing individual cases that cannot be handled administratively, most licensing boards are interested in the training programs offered by various types of institutions within the state such as the baccalaureate, associate degree, and hospital-based nursing programs for registered nurses and the practical nursing programs offered in high schools, postsecondary institutions, adult education programs, and manpower development training programs Among other things, licensing boards set standards for teachers in various types of programs. For example, most programs follow the recommendations of the American Nurses Association in requiring that instructors in nursing programs hold a master's degree. Since R.N.'s with this degree are in short supply, many training programs are hard pressed to recruit personnel able to meet this standard. In practical nursing programs, it is usually mandatory that all instructional personnel involved in clinical training be R.N.'s. Officials of some of the L.P.N. groups are resentful of this requirement because they feel that experienced L.P.N.'s have much to offer, yet they may not be utilized in training programs since they fail to meet the standards set by a state board.

Many of the interviews conducted were with nursing board officials or with administrators of L.P.N. training programs. Almost without exception these individuals were R.N.'s. There was seldom any critical comment from these people about the way in which licensing was handled or the way in which training programs were conducted. It was not until interviewers had the opportunity to talk with an L.P.N. who was a member of a state nursing board and with one who held office in a state L.P.N. association that there was any indication of the hostility that seems to exist between the two factions—at least in this one state. The picture that emerged from these discussions was that L.P.N.'s perceived the R.N.'s as dominating their profession. The L.P.N. who was a state nursing board members said that the R.N.'s on the board usually caucused prior to each meeting and decided in advance what action they would take on each issue, including matters that involved practical nurses. If this report is accurate, the antagonism between the groups is understandable. However, the authors have no way of verifying such reports.

In several other states both R.N.'s and L.P.N.'s referred to a position paper on the training of practical nurses that had been prepared and disseminated by the American Nurses Association. It was reported that this paper recommended that no new L.P.N. training programs be established and that future training emphasis be placed on two year associate degree programs. Several L.P.N.'s who were interviewed felt that implementation of this recommendation by state boards of nursing would prevent the future growth of L.P.N. programs and probably result in the elimination of the L.P.N. category altogether.

In a climate such as that just described, it is not difficult to understand why L.P.N.'s are distrustful of R.N.-dominated boards. On a theoretical level, it may be reasonable to suggest (as a California Study Commission did) that there is no need for separate boards and that R.N. and L.P.N. licensing should be handled by a single board (2). However, in view of the antagonism that has developed in recent years, it is questionable that a single board offers a satisfactory solution.

Dental Hygienists: This group has no representation on the boards which regulate them. Members of boards which license and regulate dental hygienists are usually dentists, although in California there are 2 lay representatives on the 9-member dental board. The method of appointment varies from state to state. In some instances, the selection is made by the governor; in others, by the head of the state licensing agency. In at least 2 states, Alabama and Oklahoma, board members are elected by the states' dental associations. Dental hygienists are not permitted to participate in the election in any way.

The size of the dental boards varies; Alabama's board has 5 members, Illinois' has 7, Oklahoma's has 8, California's has 9, and New York State's has 11. Boards, as a rule, exclude anyone who is on the faculty of a dental school.

In addition to reviewing applications and conducting examinations for both dentists and dental hygienists, dental boards are concerned with enforcing certain rules relating to professional conduct. For example, the rules of the Oklahoma board state that it is "...unlawful for a dental hygienist to advertise or publish in any way the fact that she is in the practice of dental hygiene." Hygienists are forbidden to offer free dental service or examination as an inducement to gain patronage or to employ "cappers or steerers" to obtain patronage. Publication of any schedule on comparative prices or fees for services is also prohibited.

One of the more interesting prohibitions in the regulations of the Oklahoma board concerns the use of so-called "prophylactic lists" by dental hygienists who change employment. A hygienist is specifically enjoined from using "...in any manner whatsoever any prophylactic list, call list, records, reprints of copies of same or information gathered therefrom, or the names of patients whom she has formerly treated when serving as an employee in the office of a dentist by whom she was formerly employed." Any hygienist who uses or attempts to use such a list may have her license revoked or suspended. While it is understandable that dentists might wish to prevent former employees from pirating patients, it is difficult to see what relationship this prohibition has to the stated purposes of licensing. The authority of the licensing board is being used under law purely to protect the economic interests of the dentist.

Other bases for suspending or revoking a hygienist's license include persistent inebriety or addiction to drugs, dishonorable or unprofessional conduct, a communicable disease, proof of mental unsoundness, gross immorality or incompetency.

Ophthalmic Dispensers: Licensing in this field is almost entirely in the hands of licensed practitioners. In Florida, the board consists of 5 licensed dispensing opticians who have had at least 5 years of experience. In Arizona, the 5-member board is also made up of licensed practitioners. Two members are traditionally appointed from the Tucson area while 3 come from Phoenix.

In New York State, the 5-member advisory board consists of 3 ophthalmic dispensers who must have had at least 10 years of experience, an ophthalmologist, and a licensed optometrist. Board members in Florida and Arizona are appointed by the Governor. In New York State, they are appointed by the Commissioner of Education. Terms of office vary; it is 3 years in New York, 4 in Florida, and 5 in Arizona.

The New York board is considered advisory. Its major function is to prepare a written examination and to conduct a performance examination. Processing of applications and evaluation of credentials are handled by the Division of Professional Licensing Services within the Division of Professional Education. All matters pertaining to alleged violations of laws or regulations are handled by the Division of Professional Conduct. Thus, the scope of the New York board is quite limited when compared with that of the board in Florida.

The Florida board meets about 6 times a year. Members receive $10 per diem plus travel expenses. The secretary of the board receives an additional $500. He, in turn, employs a part-time secretary to handle correspondence and maintain records. Because of this rather informal arrangement, the board office is located wherever the secretary of the board happens to reside.

At the time of the survey, an ETS interviewer went to Tampa, Florida to confer with the individual listed on an official state roster as the Secretary of the Board of Dispensing Opticians. Upon his arrival, the interviewer learned that the secretaryship had changed hands and that the secretary's office (and all of the board's records) had been transferred to Miami. However, the former secretary, who had served in that capacity for 13 years, agreed to be interviewed and to provide information about the board's operations. From his account, the board is a highly autonomous organization. Apart from notifying the Governor of its agenda and the names of passing and failing candidates, it has little contact with the state government. Its functions range from answering inquiries and evaluating credentials to the administration of licensing examinations and policing activities. Its regulations are quite specific as to what a dispensing optician may and may not do. For example, the board's regulations prohibit any diagnosis or prescription by a licensed dispenser. Even the display of refracting equipment is prohibited. Its regulations also prohibit dispensing opticians from operating in an establishment where the gross sales of other than optical merchandise and hearing aids are more than 25 percent of the total. The regulation states, "It is not the intent of the board to see this skillful trade or occupation of dispensing opticians used as a loss leader to encourage the sales of other types of merchandise or skills." Other regulations prohibit advertising which, in the opinion of the board, would "...tend to mislead the public or lower the trade or occupational standards..." Such regulations suggest that the board also serves as a quasi-official trade association and may use its police powers to restrict competition.

The board in Arizona is required by law to meet at least twice a year. Its members receive no compensation, not even reimbursement for travel expenses. The board's powers are limited to examining candidates for licensure. Board members do become actively involved in making decisions about individual candidates, but they have no enforcement authority.

WHAT ARE THE REQUIREMENTS FOR LICENSURE?

Practical Nurses: Because of the strong influence of national organizations in the nursing field, there is considerable similarity among boards with respect to licensing requirements. However, as long as individual states reserve the right to set their own standards, one may expect to find some differences. Most states specify a one-year training program, which may vary from 1,200 to 1,400 hours of study and work. New York State requires only 9 months of training. In general, state licensing agencies tend to recognize training programs that were pursued out-of-state, but because of variations in hours and other requirements, they check to make sure that such out-of-state programs are comparable to their own. Thus, while licensing by endorsement is widely practiced in the field of practical nursing, an applicant may encounter weeks of delay while the matter of equivalency is investigated by a board staff.

Most states also recognize alternatives to the standard L.P.N. program. For example, applicants who have had a year or 18 months of training in a regular nursing program may be permitted to sit for the L.P.N. examination provided the training is deemed equivalent to that normally given to L.P.N.'s. If the board feels that there are gaps in an applicant's training, it may require her to take certain courses before she is permitted to sit for the examination. In a number of states, military training and experience are acceptable. In California, for example, an applicant must show successful completion of a basic course of instruction and 36 months of service in the medical corps of any branch of the armed forces. However, some states do not accept such military experience. One member of Oklahoma's board of nurses told an ETS interviewer, "Our board feels that persons should have at least six months of training in a state to familiarize themselves with the role and philosophy of the practical nurse." She said that the National League for Nursing was endeavoring to persuade military training schools to have their programs approved by the nurses' board in the states where they are located. This should facilitate the recognition of military training by boards in the various states.

The California board also recognizes a combination of training and experience as a basis for satisfying the training requirement. For example, a 450-hour approved course, plus 36 months of paid experience during the previous 4 years, is acceptable. This board also has a formula for converting several combinations of training and experience into equivalency credits. Anyone who can show 78 months (6½ years) of paid nursing experience is eligible to take the examination.

Some boards interpret the training requirement literally. In Muskogee, Oklahoma, the director of a licensed practical nursing program recounted an incident that had occurred in her hospital. A registered nurse who had been licensed in Michigan moved to Oklahoma following the death of her husband. Since she had been away from active practice for a number of years, she decided to take a job in the hospital as a nurse's aide. When the hospital staff discovered that she had formerly been a nurse, they encouraged her to seek reinstatement of her license. Instead of seeking a license as an R.N., she decided she would rather be an L.P.N. To her surprise, the application was rejected by the state nursing board on the grounds that she had not taken an approved practical nursing program and thus was not eligible to sit for the licensing examination. At the time of the interview, this individual was still working as a nurse's aide.

As for other requirements, the states do differ, but not as widely as is the case with some other occupations. The educational requirement ranges from completion of the twelfth grade (Alabama and Michigan) to only an eighth-grade education (New York). A number of states specify that an applicant show at least 2 years of high school or its equivalent. Unfortunately, there is no easy way to establish a tenth-grade equivalency. The American Council on Education Tests of General Educational

Development (GED) are widely accepted as equivalent to a twelfth-grade education, but the Council has never established a test score level for tenth-grade equivalency.

Although the law may specify only an eighth-grade education as necessary for licensure, most approved schools of practical nursing will not admit any student who has not completed at least 2 years of high school. Indeed, some require 4 years of high school. The standards imposed by training institutions can supercede the legal requirement, and those possessing only the minimum eighth-grade education may find that they are unable to obtain the training necessary to become qualified to take the examination.

United States citizenship is a fairly standard requirement, although anyone who declares his intention of becoming a citizen is usually accepted. In Illinois, an applicant may satisfy the citizenship requirement by taking a loyalty oath. Neither New York nor Michigan has a formal citizenship requirement.

Although most state laws do not include a health requirement, virtually all training institutions have one which serves a similar purpose.

Good moral character is universally required for licensure as a practical nurse. In some states, such as Florida, the board asks the training institutions to attest to the character of the applicant. In others, such as California, the board checks fingerprints against police records. Applicants who have been convicted of a felony or a crime involving "moral turpitude" are not granted a license. Those who have been convicted of less serious crimes may be licensed at the discretion of the board. This is the approach taken by most boards. Making determinations on such questions has become one of the most time-consuming activities of licensing boards.

While literacy is seldom stated as a formal requirement for licensure, it becomes a _de facto_ requirement because the examination is given only in English. The use of interpreters by candidates during the examination is not encouraged in this field. A board official in Florida, which has a large Cuban population, particularly in the Miami area, expressed surprise when the question was raised. She stated that to her knowledge the board had never received a request to have the test translated or to permit the use of an interpreter. In Illinois, the board has specified that no interpreters will be allowed to assist candidates during the examination. Moreover, all foreign applicants are interviewed, in advance, to determine the extent of their proficiency in English. Neither New York nor Texas, each of which has a substantial number of Spanish-speaking applicants, makes any provision for applicants who may not be proficient in the English language.

Dental Hygienists: A dental hygienist is generally required to be at least 18 years of age, a high school graduate, and of good moral character. A number of dental hygiene educators have suggested that the age level be raised to 21 in order to insure that the hygienist has the necessary maturity to handle the social problems involved in the job. Frequent references were made by educators to the fact that relatively young and immature girls are subjected to the advances of older men and are not able to handle the situation. This may also be one basis for the insistence by most boards that applicants be of good moral character.

Citizenship, literacy, and good health are frequently included among the prerequisites for licensure as a dental hygienist. In Alabama, a dental hygienist must have an annual physical examination, including a blood test and a chest X-ray. Other states do not seem to have such stringent health requirements.

The critical requirement for dental hygienists is the completion of a 2- or 4-year training program approved by the state board of dental examiners or by the American Dental Hygienists Association. Some 49 out of 53 licensing jurisdictions use the examination prepared by the National Board of Dental Examiners in lieu of their own state examinations for dental hygienists. California, which was one of the few states which was still giving its own examination in 1967, was admonished by a State Commission on Organization and Economy to make use of the national examination. "The present practice of board members constructing, administering, and grading examinations places an undue and unnecessary work load on them." 11, p. 25 The California Board has since needed this admonition and adopted the national examination.

Graduates of schools accredited by the American Dental Hygienists Association are automatically eligible to take the examination given by the National Board of Dental Examiners. Graduates who are not members of the American Dental Hygienists Association must submit three letters of recommendation testifying to their ethical conduct. One letter of recommendation must come from the secretary of the state licensing board, another from the administrator of the applicant's dental hygiene school, and the third from a dentist employer.

The application form used by the licensing board in Oklahoma illustrates how deeply boards probe into the affairs of applicants. In addition to the usual information such as name, address, birth date, and citizenship, the Oklahoma application requests the following:

Membership in professional societies or organizations
Height, weight, sex, and color of hair and eyes
Religion
Marital status - name of spouse
Mother's name, father's name, and their respective addresses and occupations
Names of relatives engaged in the practice of medicine or dentistry
Name of the dentist with whom they expect to practice if licensed
Two character references
A declaration that the applicant has never been charged with or convicted of a felony
Whether applicant has been accused of moral turpitude in any court and the disposition of the charges

Addiction to the use of drugs, narcotics, or alcohol
Evidence of mental or nervous disorders, including sexual perversions
Any treatment for mental disorders

This far-reaching application seems to go beyond the bounds of legitimate inquiry and could undoubtedly be challenged in the courts. However, no applicant is likely to do so for fear of jeopardizing her chances of licensure.

In Oklahoma only female applicants were eligible for licensure at the time of the study. However, the board secretary stated that the members were considering the deletion of this requirement since many servicemen who had acquired skills in dental hygiene had expressed an interest in entering this field. Nonetheless, until the law is changed or unless federal regulations override it, only women can be licensed in this state!

Opnthalmic Dispensers: Florida, New York, and Arizona require applicants for licensure as ophthalmic dispensers to be at least 21 years of age. In Florida and Arizona, citizenship or a declaration of intent to become a citizen is required. In New York State, citizenship does not appear to be a legal requirement, although a question about citizenship appears on the application form. Each of the states stipulates that "good moral character" is a requirement without providing any definition of the term. The Arizona board requires a letter of reference but makes no routine check with police officials as to a possible criminal record.

Candidates for licensure in New York and Arizona must be high school graduates or the equivalent. Florida does not have a minimum educational requirement for this occupation. None of the states studied requires a health examination or literacy in English. However, since the examinations are given only in this language, English appears to be a de facto requirement.

In New York, a candidate must have completed either a one-year course of study in an approved school of ophthalmic dispensing or have had at least one year of satisfactory training and experience in the field under the supervision of an ophthalmic dispenser, physician, or optometrist. Because of the scarcity of formal training schools, the majority of applicants choose to enter the occupation via the "experience only" route.

New York charges a fee of $40. This includes the cost of the license should the candidate successfully pass the examination. However, if a candidate fails to appear for the test, he forfeits his fee.

In Arizona, there is no formal training requirement. Residents are qualified to take the examination if they show 3 years of experience in the occupation during the preceding 5 years. Out-of-state applicants must show 5 years of experience during the preceding 7 years. The fee of $25 covers only the first attempt.

In Florida, an applicant may qualify in either of two ways: by completion of 850 hours in a recognized school of optical dispensing (there are three or four such schools in the entire United States; Erie County Technical Institute in Buffalo, New New York; Ferris Optical School in Detroit, Michigan; and the Los Angeles School of Opticianry in California or through acquiring 2 years of experience—of a "grade and character satisfactory to the board"—under a dispensing optician, a licensed physician, or a licensed optometrist. The board, at its discretion, may also accept a combination of formal training and experience. The time spent in a school of opticianry would be considered as part of the apprenticeship period. An examination fee of $25 must accompany the application form and is nonrefundable.

HOW IS COMPETENCY TESTED?

The examinations used for licensing practical nurses and dental hygienists are among the few encountered in the course of this investigation that are uniform, nationally used, and prepared by test specialists. The examinations used in licensing ophthalmic dispensers are prepared by state examining boards or state advisory committees and vary widely in their content and quality.

Practical Nurses: When state licensing officials speak of their examination program for practical nurses, they generally refer to it as the State Board Test Pool (S.B.T.P.). Each board member seems to take a measure of personal pride in the S.B.T.P. and tends to think of it as a national venture in which individual boards have played an important part in one way or another. This identification by state boards with the national program is readily understandable when the procedures used by the National League for Nursing (N.L.N.) in developing the examinations are studied.

The national program was launched in 1947. Today, all 50 states (as well as the District of Columbia) utilize the national examination. The program was begun as a cooperative venture, with individual states assisting with various aspects of the test development process. Much of the cooperative spirit remains today, although states now take turns in providing the needed services.

The first step in the test development process is the preparation of a test plan by a blueprint committee whose members are appointed by various states on a rotating basis. The blueprint committee reviews the specifications used for previous examinations and makes such changes as it feels are appropriate. Various state boards are then asked to nominate highly qualified subject-matter experts from their respective states to write test questions, or items. These may be board members, but they are usually instructors in practical nursing programs. Each subject area committee (generally composed of 6 members) meets with the N.L.N. Evaluation Services staff to prepare questions in its specialty. The questions are edited and checked for content accuracy by the N.L.N. staff. The items are then assembled into test books which are sent to each state board for review. Board members in each state tend to regard the final product as a test which they helped to develop; thus they consider it their test.

The review process is anything but a rubber-stamp operation. Each board meets under highly secure conditions. Although every member has a copy of the questions in all of the fields, the ground rules prohibit any reviewer from making notes or removing a copy of the review booklet from the meeting room. All comments and suggestions from board members are noted on a single copy of the examination.

When all comments and suggestions from the various boards have been received by the N.L.N., a careful analysis is made to determine which questions are considered satisfactory as written, which would be satisfactory if modified, and which are unsatisfactory and not worth salvaging. A preliminary form of the test is then assembled and administered to applicants in a cross section of the country. The results are subjected to item analysis to determine which questions should be retained and which deleted from the final form. The items which survive this analysis are printed and made available to state boards for use in the licensing process.

The norms for each examination are based on the results obtained from a large sample of first-time candidates drawn from a representative cross section of the states. In order to make the test results comparable from one administration to the next, all raw scores are converted to standard scores with a national mean of 500 and a standard deviation of 100. Since scores on the test tend to produce the bell-shaped curve which characterizes a normal distribution, one may expect that the scores of about 68 percent of those taking the examination will fall between 400 and 600. Virtually all states have agreed to use 350 as the minimum qualifying score. This score eliminates about 7 percent of those taking the test. California has elected to use a higher cut-off score. By setting its qualifying score at 400, California tends to reject about 16 percent of its applicants.

In order to preserve test security, each board enters into a contract with the N.L.N. and the American Nurses Association. It agrees to abide by rather stringent procedures designed to safeguard security. These procedures prescribe how tests must be handled prior to the administration date, how the examinations themselves must be conducted, and how the test papers and other materials are to be returned to the N.L.N. Any violation of security by a board would be regarded as a breach of contract by the N.L.N. and would result in a denial of permission for the offending state to use the tests in the future. Since the privilege of participation in the program is highly valued, state boards seem quite willing to comply with the strict security requirements, although some board officials feel they are excessively stringent.

The examination itself is of the multiple-choice variety and requires 4 hours of testing time—2 in the morning and 2 in the afternoon. All answer sheets are scored by the N.L.N., in New York City, and reports are sent to the state boards within 15 working days after receipt of the papers. Since there are no part scores, a candidate cannot receive partial credit and cannot be advised as to any areas of weakness. A candidate failing to achieve a passing score must repeat the entire examination. However, a candidate who believes that an error has been made in grading her paper can request that her paper be checked. In such instances, the answer sheet is rescored by hand and a verification report is sent to the candidate. However, scoring errors are seldom found.

The licensing examination currently in use is entirely a paper-and-pencil one; it has no performance component. In response to questions about the need for some type of performance evaluation, several board officials commented that all candidates underwent a very thorough evaluation by their supervisors during their clinical training; hence, a practical test would add little of value. This same argument might well be applied with respect to the written test. All applicants are undoubtedly examined thoroughly on the knowledge and theory of practical nursing during their training period. There would seem to be no need to reexamine them on this material either. The lack of consistency in board members' viewpoints is puzzling, to say the least.

Dental Hygienists: The written examination used by most states in the licensing of dental hygienists is prepared under the sponsorship of the National Board of Dental Examiners of the American Dental Association. This board conducts examinations in dental hygiene during July of each year. Additional test sessions are scheduled as the need arises. Licensing boards in 49 out of 53 licensing jurisdictions are currently making use of the board's examination as part of their licensing process. The exceptions are Delaware, New Jersey, Puerto Rico, and Arizona.

Test specifications are prepared in consultation with dental hygiene educators and state board members. Multiple-choice questions are written by 12 test development committees appointed by the board. As questions are received from the item writers, they are reviewed and edited by a test construction committee to insure consistency of form and to determine the appropriateness of each item.

The examination consists of four parts which must be completed in a single day. Part I covers general anatomy, dental anatomy, and physiology; Part II covers histology, pathology, and radiology; Part III covers chemistry, nutrition, and microbiology; Part IV covers pharmacology and dental materials.

Only students who have completed their studies in dental hygiene schools accredited by the American Dental Hygienists Association are eligible to take the board examination. The examination fee is $15; no fee is charged for reexamination. Each of the tests is graded on the basis of 100 points, with a score of 75 required on each part in order to pass. Although most state boards use the national examination, a few still prefer to administer their own examination; others, including Oklahoma, will accept results from the national examination but will also administer their own examination on request.

It is not uncommon to find a special course given during the last year of a dental hygiene program which is designed to prepare students specifically for the examination. Students who will be taking the test are frequently asked to cooperate with the instructional staff by bringing back questions remembered from the examination. One educator explained that when she had been a student the process had been quite elaborate. Certain students were given responsibility for specific sections of the examination and almost everyone reported back faithfully. In this way students could always obtain up-to-date information about what had been included on recent examinations.

In addition to the written test in dental hygiene, licensing boards give each applicant a practical examination. As a rule, a candidate must perform oral prophylaxis for a patient requiring such treatment. This means, of course, that the candidate must find a suitable patient and bring this patient to the test center. The candidate pays all travel expenses incurred in getting the patient to the center. During the administration of the clinical examination, board members frequently ask the candidate oral questions about the procedure she is doing, about other conditions in the patient's mouth, or about other professional services that might be rendered by a hygienist. The usual procedure is for the candidate to be evaluated by two or more board members and to be given a separate grade for each task. Candidates are usually also required to do a full mouth X-ray, to process and mount the film, and to complete the necessary chart work. Some boards also conduct a formal interview. In Oklahoma, the executive secretary of the examining board stated that its interview generally covers the background of the applicant, her reasons for choosing the profession, her general attitude toward dental hygiene, and her general outlook. Her appearance is also taken into account. The secretary said that the board would not be favorably inclined toward a candidate who indicated that she was entering the field for monetary gain rather than to serve mankind. However, he indicated that this seldom happened. He could not recall any instance where a candidate had failed solely on the basis of the oral interview.

Ophthalmic Dispensers: Because the field of ophthalmic dispensing does not have a national examination program, each state board is responsible for developing, administering, and grading its own examinations. As a result, there is considerable variation in the nature of the examination programs and in the degree of stringency exhibited by the various boards. In New York State applicants are subjected to 15 hours of testing extending over a 3-day period; in Florida, testing takes a day and a half; in Arizona, the entire examination is usually completed in less than 3 hours.

The written examination used in New York consists of 6 subtests with a specified time limit set for each one: mathematics (1½ hours); physics (1½ hours); ophthalmic materials and laboratory (3 hours); ophthalmic optics (3 hours); ophthalmic dispensing (3 hours); and contact lenses, anatomy, and physiology of the eye (3 hours). The test questions are prepared by a 5-man advisory board which meets 7 times each year to work on test items, review results of previous examinations, and administer the practical part of the examination to applicants. Before any questions are used in an examination, they are reviewed and edited by test specialists in the Bureau of Higher and Professional Education. The examining division of this bureau grades all the test papers. In order to pass, candidates must have an average score of 75 percent for the 6 subtests with only one below-average score allowable; even this score must be above 65 percent. The written examination is offered twice a year in 4 cities: New York, Buffalo, Syracuse, and Albany.

Approximately 3 days after they have taken the written test, candidates report for the performance examination which is conducted in Buffalo and New York City. All candidates are required to take this portion even though they may not have passed the written test. The practical test is administered by three ophthalmic dispensers who are members of an advisory board; they are assisted by several experienced licensed ophthalmic dispensers in each city who are hired as assistant examiners.

The performance part of the examination requires the candidate to perform the tasks which would be involved if he actually had to fill a prescription for a patient. The candidate is asked to interpret a prescription and to fit and adjust a pair of eyeglasses after he has inserted the lenses in the frames. He must demonstrate to the examiners his familiarity with the equipment found in the laboratory. He is also expected to show that he knows how to use the equipment needed for fitting contact lenses, although he does not actually have to fit any. The examiners, who play the role of patients, ask the candidate pertinent questions. He is rated on his replies and special emphasis is placed on the ethical aspect of his answers. For example, he should not actually prescribe for the patient. All scoring during the performance section is subjective.

The written questions used in Florida are prepared by board members. Many items are reused from year to year since they involve basic terminology. Some are borrowed from examinations used by other states, especially New York. Most of the questions are multiple-choice; several (as many as 20) are of the essay type. The value of each question is automatically established by the number of items in each section. Board members, using a master sheet, grade all examination papers only once. Since there is just one administration annually, a single form is developed each year, with only slight modifications from the previous form.

A candidate in Florida receives no briefing about the examination except for the information contained in the licensing law; a copy of which is sent to him when he registers. If he inquires about the test, he is advised that he will be expected to do such things as neutralize lenses and fit glasses.

The examination is generally given in the city where the secretary-treasurer resides. For a period of 14 years it was given in Tampa. It takes 1½ days, from Saturday morning to noon Sunday, with the written portion requiring a half day and the practical test a full day.

The practical examination involves the following tasks: neutralizing lenses, measuring and calipering lenses and frames, identifying a series of different types of eyeglass lenses, and fitting four or more clients drawn from diverse occupations; for example, a barber, a housewife, a bulldozer operator, and a crane operator. Oral questions are asked during the practical examination. A candidate might be asked such a question as how he would fit lenses for a client with cataracts. During the examination, one judge handles the neutralizing task, with the other four observing the candidates on the remaining tasks. Usually two judges make independent evaluations of each applicant's performance.

Applicants are not advised of their exact score; they are merely told whether they passed or failed. The minimum passing score varies from year to year; according to the former secretary-treasurer the board usually sets it "somewhere between 70 and 80."

The examining procedures used in Arizona provide an interesting contrast to those used in New York and Florida. Here the written test consists of 100 questions with 20 items in each of 5 fields. These are multiple choice. Some questions may have as few as three choices. The test is given twice a year, once in Phoenix and once in Tucson. The board rents a hotel or motel room to serve as the test site. There is no time limit set for the written section; as soon as a candidate finishes it, he turns in his paper and goes on to the oral and practical sections. Test papers are graded by the board secretary while the other board members handle the practical test. A candidate must earn at least 75 on each of the 5 parts in order to pass.

The performance section resembles the practical examinations used in New York and Florida, although it is unlikely that candidates are examined to the same depth. The tasks involve neutralizing lenses, setting the size of frames, determining bifocal height, and adjusting frames. Two members of the board grade each part of the practical examination and, between them, decide what the final grade will be.

A board official described the written test as "low on theory" and, therefore, quite easy. "We are probably passing too many candidates," he said, "but it's not realistic to make a much more difficult examination until educational facilities for training ophthalmic dispensers are improved." He noted that there were only 4 schools in the country where someone could obtain systematic training. The one nearest to his state is in Los Angeles. This official also commented that there had been considerable discussion in recent years about the possibility of establishing a national licensing examination. He said that a national test already existed for those who wanted to become members of the national organization, but it was given only at the time of its annual convention. The examination was difficult, he said, and probably not suited for use in licensing. However, he thought the field was ready for some type of national testing program and said he hoped that someone would provide the leadership to get such a program off the ground. He also mentioned that his own board was somewhat reluctant to expend much time or energy on developing an improved state examination if it appeared that a national examination was a possibility.

One can visualize the dilemma that sponsors of a national examination will face as they attempt to reconcile the views and standards of states that are as far apart in their thinking as New York and Arizona. However, such differences are not insurmountable since each state board would be free to set its own cut-off score. Initially, these might be quite far apart, but over a period of time they would probably converge since few states are willing to acknowledge publicly that their standards are lower than those of other states.

WHAT IF AN APPLICANT FAILS?

Practical Nurses and Dental Hygienists: Students who have attended approved schools of practical nursing or dental hygiene need have little fear regarding their success in the national licensing examinations. The tests appear to have been tailored for this population. The fail rate for first-time applicants among practical nurses varies between 4 percent and 8 percent while for dental hygienists it tends to average about 5 percent.

The practical nursing applicant whose background does not fit into the predetermined mold poses a problem. In California, the fail rate for candidates who had not attended schools accredited by California has ranged between 28 percent and 69 percent. Those who attempt to enter the occupation from the military or by the equivalency route generally have the highest fail rates. Those who fail the test and then retake it at another time find that the odds of passing on the retake are not greatly improved. A similar pattern was discerned in other states where data on "repeaters" were available. In Illinois the fail rate for repeaters was around 50 percent several years ago, while in New York it approached 60 percent. This suggests that the N.L.N. examination strongly favors those who have taken a prescribed curriculum in a state board accredited institution. Those seeking licensure without this type of institutionally oriented background are at a serious disadvantage. Under the circumstances, one would like to know whether there is a demonstrated relationship between passing the N.L.N. examination and being able to carry out the duties of a licensed practical nurse. The authors were unable to locate any such data.

As noted, the fail rate for dental hygienists on the national examination is very low. The explanation seems quite obvious. Only graduates of board-approved programs are permitted to take the examination. Unlike the case in practical nursing, there is no substantial group of equivalency candidates. One notable exception involves candidates in Alabama who receive their training under a preceptorship program. These candidates are examined locally and do not take the national examination; hence no comparative pass-fail information is available.

When a candidate fails the national examination in practical nursing, she is required to repeat the entire examination. The candidate receives a total score but no information as to her areas of weakness. This can create a special hardship for those seeking licensure via the education plus experience route since they have no way of finding out what they need to emphasize in studying for future examinations. The dental hygienist examination, by contrast, does provide feedback to candidates as to subject areas in which they failed. Furthermore, a candidate is not required to repeat the entire examination, but only those parts on which she scored below 75. However, if she fails to pass these segments on two retests, she will be required to take the whole examination the next time.

Nursing boards in the several states have devised a variety of administrative policies for dealing with candidates who fail. Most will permit the candidate to take the national examination the next time it is offered. A few seem to place no restriction on the number of times that a candidate may attempt to pass. However, some do exhibit concern after a person has tried the test twice and failed both times. In Oklahoma, a candidate who fails on her first retake is required to complete a formal review of practical nursing which must be prepared and supervised by an instructor in a school of practical nursing. Should a candidate fail a second retake, her case must be considered by the board before she is allowed to attempt the test for the third time.

In California, a candidate may retake the examination only twice; after the third failure, she must repeat the entire vocational nursing course at an accredited school. Florida also draws the line at three failures. Some candidates return to school for additional training, but others may, with board approval, embark on a tutorial program under the supervision of a registered nurse or licensed practical nurse in their own locality.

The retake policy with respect to the national examination for dental hygienists is established by the national board. The various state boards set their own policy in regard to retaking the practical examination. Most will permit a candidate to take the practical at the next opportunity. In some states, as in Oklahoma, this might mean waiting for a whole year. In others, as in New York, it might mean a delay of 6 months. However, generalization is hazardous. In Oklahoma, for example, the board has a policy of scheduling special examinations if there are 5 or more applicants waiting to be tested. The executive secretary of the board reported that one candidate who failed in June was told that she would have to wait a whole year to be reexamined. She would not be allowed to practice in the interim. Fortunately, the board scheduled a special examination in January. The candidate was allowed to take the examination with the special group. She passed and received her license.

Ophthalmic Dispensers: In contrast to the low failure rates which prevail in the fields of practical nursing and dental hygiene, the proportion of failures in ophthalmic dispensing is very high. In 1967 the failure rate for all applicants in Florida was 64 percent! That same year, the failure rate of first-time applicants in New York was 63 percent. Arizona, which appears to be considerably less restrictive in this occupation than are certain other states, reported a failure rate of about 50 percent.

Examinations in ophthalmic dispensing are given rather infrequently; those who fail or those who move into a state must wait up to a year to qualify for a license. In New York the examination is given twice a year. An individual pays a $40 fee for his first attempt and $15 for each retake. On a retake, he is required to repeat only those parts in which he scored below 75 percent. Florida, by contrast, requires an applicant to repeat the entire examination. Because the examination is given only once a year, an individual who fails must wait a full year to be retested. He must also pay the full $25 examination fee each time he takes the test. Arizona follows the lead of New York in requiring candidates to repeat only those parts of the test on which they scored below 75. A candidate who fails the practical examination is permitted to retake it after a 6-month waiting period; however, if he fails at his second attempt, he must wait a year before trying again.

The explanations given by board officials for the high failure rate in this occupation tended to focus on the absence of educational standards for applicants, on the shortage of training facilities, and on economic factors.

An official in New York reported that, at one time, applicants training in his state had to have studied college-level algebra and geometry. Recently, this requirement was dropped. As a result, many applicants do not have sufficient background to handle the materials called for in the examination and therefore have little chance of passing.

Opportunities for pursuing formal training in ophthalmic dispensing are limited, since only a handful of institutions offer preparatory programs. The typical preparatory route is through on-the-job training, frequently referred to as an apprenticeship. While the trainee learns to perform the shop work associated with ophthalmic dispensing, there is no obligation on the part of the employer to teach him anything about the theory of optics, the physiology of the eye, or other technical aspects of the occupation. Without such training, the apprentice is poorly prepared for the highly technical, scientifically-oriented examination.

There seems to be evidence of exploitation of trainees in ophthalmic dispensing. The secretary of one board stated that it is quite common for ophthalmic dispensers to recruit bright high school graduates with the promise of teaching them the trade. However, at the time the apprentice is recruited, he is often unaware of the nature of the licensing examination. He may well assume that it deals only with the skills he is learning on the job. When he faces the test for the first time, he is likely to be overwhelmed by its heavy emphasis on mathematics and science. Even if the apprentice knew the nature and scope of the examination beforehand, he would have considerable difficulty preparing himself unless he happened to live near one of the few places where formal training in ophthalmic dispensing is available.

It would appear that the present licensing system in ophthalmic dispensing, with its high failure rate, plays directly into the hands of those who are already licensed and who control employment opportunities. The apprenticeship period provides the employer with a source of cheap labor, with relatively little risk that a trainee will move on to become a competitor. Indeed, once the trainee has invested time and developed certain skills in this occupation, he may continue to work in it for relatively low wages. The more ambitious may continue to study on their own in the hope of somehow passing the licensing examination, but they are not likely to realize fully the extent to which the cards are stacked against them.

It would seem that as long as the concept of apprenticeship is used in describing the training program in ophthalmic dispensing, employers should be required to make arrangements for providing the requisite academic and theoretical training as is true of most other apprenticeship programs. Licensing officials might argue, of course, that they are concerned only with competency and not with the educational programs through which competency is acquired. In that case, state and federal officials responsible for apprentice programs should take a hard look at this field and consider the need for setting up entry-level requirements and for providing an educational program to supplement shop training. Such measures would help to ensure that most of those accepted for training would have a reasonable chance of completing the program and going on to pass the licensing examination. To allow the present situation to continue would seem to make the state a party to a cruel hoax.

WHAT IF ONE SHOULD MOVE?

Practical nurses and dental hygienists have an advantage over the practitioners of a number of other licensed occupations when they find it necessary, or desirable, to move to another state. Since most of those who are presently licensed in these occupations took a national examination, they are usually not required to repeat the written examination in a new state. Nonetheless, this does not mean that an in-migrant will be licensed automatically. She must normally meet all of the other requirements for licensure, and she may be required to take practical examinations where they are part of the licensing process.

In the field of ophthalmic dispensing, where no national examination exists, an individual moving into a state will normally be required to pass the same written and practical examinations that are given to in-state applicants.

Practical Nurses: A practical nurse who is licensed by one state will often find that she will be permitted to work in another state under a temporary license until her credentials can be reviewed and a permanent license issued. This situation prevails in Oklahoma, Alabama, New York, and many other states.

The review process may take anywhere from 2 to 6 weeks. Correspondence is frequently necessary between boards to establish that requirements in the state which issued the original license are substantially the same as those in the state where the licensed individual now seeks to practice. Occasionally, the original license may have been granted on the basis of training obtained in a third state or in a foreign country. In such cases, there may be a considerable delay while the board staff endeavors to establish equivalency. Quite frequently, the investigation reveals discrepancies between the requirements of two states, so that the in-migrant's training cannot be accepted as equivalent. In such cases, the applicant may have to take one or more courses to overcome deficiencies. This does not usually pose a serious hardship because practical nurses who are licensed by another state are customarily permitted to work with a temporary certificate.

Dental Hygienists: The requirement that everyone taking the national examination must be a graduate of a training program accredited by the American Dental Hygienists Association facilitates the evaluation of training in this field. It may be safely assumed that anyone who has passed the written test has satisfied the training requirement and part, at least, of the examination requirement. However, it does not necessarily follow that a dental hygienist who moves to another state can expect to be licensed quickly. Each state board has its own practical examination, and board members are often loathe to accept one given by another board as equivalent to their own. As a result, dental hygienists who move to another state often find that they cannot be licensed until they have passed the new state's practical examination. It may be given only once or twice a year. In Oklahoma, an applicant licensed elsewhere is permitted to work under a temporary permit until the next test administration. However, not all states follow this practice. In Illinois, for example, there is no provision for an interim temporary license.

A number of dental hygienists, educators, and training officials thought that there should be greater reciprocity among states, especially in the light of the great similarity of program standards. When an official in a midwestern state was asked what he thought were the major barriers to greater reciprocity, he replied, "The attitude of the 'sunshine' states. They don't want to reciprocate."

Ophthalmic Dispensers: As was pointed out earlier, the states which license ophthalmic dispensers tend to have an exclusionary attitude; they would not be expected to make it easy for an in-migrant to be licensed through a reciprocity agreement or through endorsement. The tendency is for each state to require all applicants for licensure to take both the written and the practical examination. Thus, a person who is licensed in one state and who wishes to establish himself in another state will usually have to wait until he can take the necessary examinations. This may involve waiting as long as a year in some states. He is also not allowed to practice on his own during the interim. However, he could probably be employed in a subordinate capacity until he was able to obtain a license.

In some states the experience requirement for in-migrants exceeds that for residents! In Arizona, for example, a resident must show 3 years of active experience during the preceding 5 years. An out-of-stater must show 5 years of experience during the preceding 7 years.

WHAT HAPPENS TO MINORITY GROUP MEMBERS?

Hard data about the race and ethnic background of applicants and license-holders in the health occupations are difficult to obtain. Licensing officials maintain that they are prohibited by law from asking for such information; yet some of these same officials continue to require all candidates to attach a recent photograph to their application forms. When pressed for estimates about the number or proportion of minority applicants, officials generally acknowledge that the proportion in practical nursing is high, but that it is likely to be very low for other health fields, such as dental hygiene or ophthalmic dispensing. One need only visit a training institution or examination center to confirm these estimates. In most places where practical nursing is taught, a sea of very dark faces will greet the visitor, and many Spanish surnames are likely to be found on the class rosters. In schools of dental hygiene, blacks, Puerto Ricans, Chicanos, and American Indians are rarely seen. In ophthalmic dispensing, the minority candidate is an even greater rarity.

There can be little doubt that differences in educational requirements as well as in the demands of the training programs themselves account for much of the disparity.

Practical Nurses: When one practical nursing educator was asked what might be done to encourage more disadvantaged students to go into practical nursing, she replied with unexpected candor, "Disadvantaged students are already getting too much encouragement. Too many of them are being pushed into this field. High school counselors don't know what else to suggest so they urge them to go into nursing." This viewpoint was echoed by other nursing educators who felt that their field had become a dumping ground for minority group girls who lack the qualifications for college or for the more technically-oriented business or health occupations. Several observed that the practical nursing programs had originally been designed for older women who had been out of school for many years. Academic requirements had been deemphasized and much more attention had been paid to the applied, rather than the theoretical, aspects of nursing. As practical nurses began to take over many of the patient-care responsibilities of the R.N., L.P.N. programs were, of necessity, upgraded. A motherly attitude and a strong back might still be desirable attributes, but they are not sufficient to meet the academic requirements which, while not high, nevertheless require some facility to read with comprehension, to do arithmetic, and to handle abstractions.

Most L.P.N. programs employ standardized tests to screen applicants in order to make sure that they have the necessary aptitudes. Among the most widely used measures are the General Aptitude Test Battery (GATB) of the United States Department of Labor and the Practical Nursing Aptitude Test, distributed by the National League for Nursing. The latter is a measure primarily of academic aptitude and covers word knowledge, reading comprehension, and arithmetic reasoning.

Students who fail to meet minimum standards for a given program are frequently encouraged by counselors to enroll in the basic education programs offered in adult evening schools or in the manpower training and development program which generally provides both day and evening classes. Experience has shown that it is unwise for students with serious deficiencies in basic education to attempt the practical nursing program since they are likely to become discouraged by the academic demands and either fail or drop out.

At Los Angeles Trade and Technical College, a part of the community college system of California, students who fail to qualify for the L.P.N. program on the selection test battery are encouraged to enter an alternate program, designed to prepare nursing home assistants. Students who are successful in this course and who show some academic promise are subsequently encouraged to enroll in the L.P.N. program. They receive credit for part of their work in the original program.

While most of the programs observed during the study showed a high proportion of black and Spanish-speaking students, some interesting exceptions were encountered. In Tulsa, Oklahoma, at the time of the survey, the L.P.N. course offered by the Board of

Education had 23 whites and only 2 blacks. The director of the program explained that since it was the only L.P.N. program in the city, she had many more applicants than she could accept. As a result, she could be very selective. Out of an applicant population that generally runs as high as 200 girls, only 30 are accepted for each of the 2 classes conducted each year. The screening procedure consists of an intelligence test, a reading test, and a personality test. Those who survive these written tests are subjected to interviews, a physical examination, and a character investigation. The director explained that the L.P.N. program offered at her school was far more demanding than the typical program and that rigorous screening was justified. Even with this, she reported that the attrition rate was about 30 percent. Students leave for both health and academic reasons.

An ETS interviewer asked a member of the State Nursing Board in Oklahoma why the program in Tulsa was so radically different from and so much more selective than other programs. She replied that those in charge of the Tulsa program had modeled it after an R.N. program rather than after the standard program recommended by the board. They were trying, she said, to cram 3 years of nursing training into one year. Small wonder that the course was so difficult and required such careful screening of applicants. She added, almost as an afterthought, "In all likelihood those who were selected for the Tulsa program could easily have succeeded in an associate degree program or in a hospital-based nursing program."

While most L.P.N. programs are offered in public schools and community colleges, where tuition and fees amount to no more than a few hundred dollars a year, there are also proprietary programs that charge as much as $2,500 per student, with an additional fee of approximately $100 for materials. An ETS staff member visited one such institution in San Francisco. Known as the College of California Medical Affiliates (C.C.M.A.), this institution offers courses for practical nurses, male orderlies, and operating room technicians. In most cases, the tuition fee is paid by a governmental agency, such as the Manpower Development and Training Program, the Work Incentive Program, or the Division of Vocational Rehabilitation. Local welfare departments also refer students to the school. The reason for directing students to a proprietary program rather than to one of the public school or community college programs was not made clear.

The director of the C.C.M.A. program said that at least 90 percent of the students enrolled were disadvantaged in one respect or another. She said that the staff was constantly seeking to counteract the forces that would otherwise discourage students and cause them to drop out. Despite efforts to provide support and reinforcement, the attrition rate at the school is high. Out of 28 students who had started the practical nursing program during the previous semester, only 8 had completed the course. Of these, 6 managed to pass the licensing examination on the first attempt. The other 2 made it on the second try.

In addition to the academic handicaps many of their students have, nursing educators frequently cited lack of maturity as a factor which contributed to the high failure rates. Girls from disadvantaged backgrounds, they said, are frequently not prepared to cope with the demands of a structured situation that requires them to study on their own, to get to class on time, to notify the school when they are ill, and to arrange for child care if they have young children, as many of them do.

One gains the impression that, with a few exceptions, access to practical nursing programs is not unduly restricted for members of minority groups. However, the educational and social handicaps which stem from their disadvantaged backgrounds may greatly reduce their chances of completing the course of study.

A review of pass-fail rates in the various states suggests that most of those who manage to complete an accredited L.P.N. program experience little difficulty passing the licensing examination. The danger apparently lies in efforts currently under way in many places to upgrade L.P.N. programs or to do away with them altogether in favor of associate degree nursing programs in community colleges. Such efforts will inevitably necessitate more rigorous selection standards. Many members of disadvantaged groups will not be able to meet these. Many of the disadvantaged will thus be barred from availing themselves of training programs which lead to employment as L.P.N.'s.

It seems ironic that at a time when there is an acute shortage of health care personnel, professional groups are embarking on projects which may reduce the number of people from disadvantaged groups who can enter the health occupations and help to alleviate some of the shortages.

Dental Hygienists: While observing the dental hygiene program in a community college in Arizona, an E.T.S. representative noted that there was not a single black, Mexican-American, or Indian in the class. She asked the instructor about this. Her reply was that she did not think that Negroes would make good dental hygienists because "most Negroes have neglected mouths as children and are not oriented toward oral hygiene." She went on to say that the Negro students who visit the school during career days do not seem to be interested in health-type occupations because "they fear the sight of blood." This explanation may have revealed something about the prejudices of the instructor, but it sheds little light on the reasons why so few minority group members are found in the field of dental hygiene.

A director of a dental hygiene program in California called attention to the very high admission requirements for both the 4-year and 2-year dental hygiene programs in her state. "In most cases," she said, "the academic requirements for entering a dental hygiene school are the same as those for dental students." She added that training facilities were quite scarce because of the high cost of providing equipment and instructional staff. "The program," she said, "is also very demanding...probably more so than it really needs to be." In any event, schools almost everywhere can afford to be highly selective. Admission is usually based on the student's grade point average, his score on the dental hygiene aptitude test distributed by the American Dental Association, and his score on a manual dexterity test that involves carving a piece of chalk. Because of their disadvantaged backgrounds, minority group students are not likely to do well on the screening tests. "There has been considerable pressure in recent years," the California program director noted, "to admit marginal students from minority groups into the program. However, they have a very difficult time competing with students who have stronger academic backgrounds."

A guidance counselor in a community college advanced another hypothesis. He observed that today there are many opportunities for members of minority groups to pursue baccalaureate degree programs in 4-year colleges. These programs, he said, have more prestige than the dental hygiene programs. Many counselors encourage students to elect a degree program over the dental hygiene program, which they view as "vocational training."

A California hygienist who was interviewed said that very few people realize how much demand there is for dental hygienists. "They can really call their shots regarding employment," was her comment. A beginner just graduating from a dental hygiene program can average $65 a day in income. A more experienced person can earn $90 to $100 a day. The hygienist hastened to point out, however, that earnings varied widely across the country, reflecting in part the degree to which people are concerned about dental health and how much money they are willing to spend for dental services. Other people who were interviewed pointed out that the average working life of a dental hygienist is only about 3 years. The training programs can hardly keep up with the increased demand. This gives those in the field a very strong bargaining position.

In most parts of the country the ratio of hygienists to dentists is 1 to 16. In Alabama, however, it is about 1 to 1...the highest in the nation! The explanation lies in a unique preceptorship program which emphasizes on-the-job training. The preceptorship approach was originally devised as a result of the exclusionary practices of training institutions. Since blacks were not being admitted, a group of black dentists banded together to provide on-the-job training for girls who might wish to become dental hygienists. They persuaded the State Dental Board to accept such preceptorship training in lieu of the formal training offered by the university. According to one dental hygienist who obtained her training via this route, "Those dentists were of the 'old school' and were very demanding of their students." Women trained by this method were able to pass the state board's licensing examination and become active practitioners. A member of the Board of Dental Examiners in Alabama explained that those coming up through the preceptorship route must also take courses at the College for General Studies of the University of Alabama to supplement their on-the-job training. However, these students do not sit for the national board examination. Instead, they take a one-day practical examination and a written examination prepared by the state board.

Although the state university has since opened its doors to black applicants, many blacks continue to pursue their training under the preceptorship system. A group of black hygienists in the state have formed a "Dental Study Club" whose purpose is to encourage black girls to enter the field and to provide financial assistance to those who may need it in order to complete their training. Local chapters of the club offer lectures, demonstrations, and advice on test-taking to those students participating in the preceptorship program. The group feels that these efforts have practical as well as psychological value for those who aspire to become licensed hygienists.

The preceptorship approach would seem to merit careful study. If it has worked as well as its proponents (who include many white dentists as well as blacks) claim, then perhaps it ought to be instituted in other states.

In the meantime, it would appear that opportunities for minority group members to work in dental hygiene are being greatly limited by shortages of training facilities, high admission standards, an extremely difficult curriculum, and the attitude of many dentists who prefer to hire only white hygienists rather than run the risk of offending the sensibilities of prejudiced patients. As long as the training bottleneck exists, discriminatory practices are likely to persist.

Ophthalmic Dispensers: In most states, licensing officials who were asked about the number of ophthalmic dispensers from minority groups in their states tended to be noncommittal. They would say such things as, "We don't keep such records," or, "I'm sure we have a few, but I couldn't give you any exact numbers." One Florida official, however, did make a number of comments which suggest the magnitude of the problem. When asked whether there were many black ophthalmic dispensers in the state, he said that he did not recall any black having taken or passed the test during the 14 years he had served on the board. He said that at one time there had been a black practitioner in Miami who had been licensed under grandfather clause provisions. This man had either died or retired, and apparently there were no other blacks licensed in the state. The official reported that quite a few Cubans were licensed. They had experienced no difficulty with the examination because they all spoke English. To his knowledge, the board had never received a request from an applicant to translate the test into Spanish or to permit the use of an interpreter.

When one realizes that nearly 1 out of 5 residents of Florida is nonwhite, it is hard to understand why not a single black person has prepared himself for the field of ophthalmic dispensing. In all likelihood, a similar situation prevails in other states. Perhaps counselors in the black community should alert young people to the opportunities that exist in this field and encourage qualified youngsters to seek appropriate training. The fact that training is available in only a limited number of institutions makes it more difficult and more expensive for a minority group member to obtain the necessary background. However, the potential social and economic rewards of entering the field of ophthalmic dispensing should make the effort worthwhile.

Since black students and members of other minority groups now have many more opportunities than they have had in the past to attend four-year colleges and professional schools, it is quite likely that any youngster who has the academic ability to master the subjects required to pass the licensing examination for ophthalmic dispensers could also qualify for medicine or other high-prestige occupations. This may help to explain why minority group members with the necessary academic ability reject those occupations they perceive to be of lower status in favor of others which offer greater prestige and opportunity for advancement.

HOPEFUL SIGNS OF CHANGE

If the amount of study and discussion currently taking place concerning the problems of licensure and certification in the health occupations is any indication of a proclivity for constructive change, there is indeed cause for optimism. Never before has there been such widespread interest in the whole area of health worker credentialing or in ways to effect improvement in the system. Both the American Medical Association and the American Hospital Association have active commissions and committees working on the licensing problem and these organizations have already adopted a number of important recommendations.

The Association of Schools of Allied Health Professions has joined with the A.M.A.'s Council on Medical Education and with the National Commission on Accreditation in sponsoring a study of selected health education programs. This project, supported by the Commonwealth Fund, is studying not only the structure, expansion, financing, and accountability of various health education programs, but also the relationship of accreditation to licensure and certification.

During 1971, concerned professionals in the various allied health occupations met with one another and with representatives of a number of government agencies to clarify issues and to formulate new approaches to overcoming some critical problems already identified. One such meeting was held in Washington in May of 1971 under the auspices of the Bureau of Health Manpower Education of the National Institutes of Health. The purpose of the meeting was to obtain frank opinions about the future of credentialing in the health field. A few months later, in September, an invitational conference on certification in the allied health professions was held at the University of Maryland.

Congress has shown increased interest in the area of licensure and certification. An amendment to Public Law 91-519 (the Public Health Service Act) passed on November 7, 1970 contained the following:

> Sec. 799A. The Secretary shall prepare and submit to the Congress, prior to July 1, 1971, a report identifying the major problems associated with licensure, certification, and other qualifications for practice or employment of health personnel (including group practice of health personnel) together with summaries of the activities (if any) of federal agencies, professional organizations, or other instrumentalities directed toward the alleviation of such problems and toward maximizing the proper and efficient utilization of health personnel in meeting the health needs of the nation. Such reports shall include specific

> recommendations by the Secretary for steps to be taken toward the solution of the problem so identified in such report.

The Senate Finance Committee in its report on the Social Security Amendments of 1970 [31] expressed concern "... that reliance solely on specific formal education or training or membership in private professional organizations might seem to disqualify people whose work experience and training might make them equally or better qualified than those who meet the existing requirements." The committee took cognizance of the problem created for nursing home administrators by the ruling of the Medical Sciences Administration that the "charge nurse" must be a registered nurse or a licensed practical nurse who is a graduate of a state-approved school or has the equivalent of a diploma. According to the committee, many nursing homes had been using waivered practical nurses as charge nurses. These nurses often did not meet the educational standard called for by licensing regulations. It was feared that many otherwise qualified nursing homes might be forced to close because of their inability to recruit registered nurses or licensed practical nurses holding the proper credentials. The committee added an amendment to the Social Security Act of 1970 requiring the Secretary of Health, Education, and Welfare to develop a program to determine the proficiency of health personnel who do not otherwise meet the formal educational, professional membership, or other specific criteria established for determining the qualifications of practical nurses, therapists, laboratory technicians, psychiatric technicians, or other health technicians and technologists."[31] Although this bill did not pass the 91st Congress, it was reintroduced in the 92nd Congress as H.R.1; a provision for proficiency testing was included.

In response to the Congressional directive, the Department of Health, Education and Welfare produced a Report on Licensure and Related Health Personnel Credentialing,[26] which delves into virtually every aspect of licensure. Many of the observations which follow have been drawn from the H.E.W. report, from the report of the A.M.A. Commission on Licensure,[17] and from various speeches and other publications.

What, specifically, are the hopeful signs of change?

1. Various groups are seeking ways to overcome arbitrary and inflexible licensing requirements, especially those related to education and training.

   Although these attempts often provoke acrimonious debate and delaying tactics on the part of those who wish to preserve the status quo, they nevertheless represent recognition of the problem and some movement toward the formulation of solutions.

   - In 1968, the California legislature passed a bill which makes it possible for returning medical corpsmen to take the examination for licensed vocational nurse (L.V.N.) if they have completed 34 months of service in this field. Many medical corpsmen have been able to pass the test and move directly into vocational nursing. However, efforts to apply this approach to registered nurses in California appear to have met with strong resistance. A report on Military Health Manpower, issued by the Santa Clara Medical Society describes the efforts of various community groups to bring about modification in the licensure laws relating to nursing. The report states:

> A representative of the State Board met with our Advisory Committee in November 1968. She maintained that existing licensure laws would serve in this case since the State Board would recognize any of the educational credits approved by colleges and the latter could give credit for military courses and experience...The granting of college credit for military training and experience does not help the returning corpsmen who needs immediate licensure in order to qualify for most health occupations and to secure employment except as an orderly.[19, p.18]

A year after the state legislature had passed the bill which permitted returning corpsmen with 34 months of experience to take the examination for L.V.N., the legislature passed a bill granting similar privileges regarding the R.N. license to corpsmen with 48 months of service. The Santa Clara report states:

> However, the California Nurses Association opposed such legislation and, as a result, the rules and regulations relating to this legislation have been made so stringent that it is almost impossible for most corpsmen to qualify. This resistance to any change or flexibility in the present program of training and licensure has been evidenced in other situations as well and is a real stumbling block to any significant changes in the existing licensure for health occupations.[19, p. 19]

- The A.M.A. Commission Report[17] urged that increased study be given to the feasibility of establishing educational equivalency measures and job performance tests as alternative routes to advanced educational placement, licensure, or certification of health personnel.
- The H.E.W. report goes even further. It recommends that "...the Department encourage the development of meaningful equivalency and proficiency examinations in appropriate categories of health personnel for entry into educational programs and occupational positions. The states are called upon to assist in the implementation of this effort by amending licensing laws, where necessary, to recognize such examinations for purposes of granting advanced educational or job placement..." The report continues, "...when the validity of such examinations has been established and proficiency more adequately assessed, reasons then exist to supplement

the single formal education approach with a multi-experience route...The availability of effective testing instruments will enable individuals who, due to their military training and experience, can demonstrate their competence to move directly into health service careers." 26, p. 75

- Proficiency tests are already being used to enable individuals who do not meet the educational requirements specified under existing Medicare regulations to qualify. Between 1967 and 1971, 466 individuals have qualified as clinical laboratory directors via the examination route. It is reported that, out of 908 examinations administered, 97 applicants failed to qualify, while 341 sought certification in more specialized fields. 26, p. 55
- A similar type of proficiency test was administered in 1970 to 212 state-licensed physical therapists who did not satisfy the professional training requirements for participation in the Medicare program. Proficiency tests for physical therapy assistants have also been developed. 26, p. 55
- The United States Public Health Service has contracted with the College Entrance Examination Board (C.E.E.B.) to prepare four equivalency examinations that will enable military personnel and others with on-the-job training to receive college credit or advanced standing in certain subjects. The tests are in clinical chemistry, microbiology, hematology,

and immunohematology. The tests are offered as part of the College Level Examination Program (C.L.E.P.) sponsored by the C.E.E.B.[26, p. 103]

- The National Committee for Careers in Medical Technology contracted with ETS to develop competency examinations in the field of medical technology. These tests facilitate the job placement of medical laboratory personnel who have had on-the-job training in the military or in civilian laboratories, but who lack formal credentials.[26, p. 103]
- The National Committee for Careers in Medical Technology has also helped to create a climate favorable to equivalency and proficiency testing by conducting an extensive survey of the use of such examinations by certification and licensing agencies, civil service groups, and the military services. The results of the survey were published by the Bureau of Health Manpower Education, United States Public Health Service.[10] In addition to describing numerous situations in which proficiency tests are being used to grant academic credit for on-the-job training and experience, the report also points out the possibilities for using such tests to testify to the qualification of individuals on the basis of experience, even in the absence of academic credentials. The report contains a bibliography dealing with such topics as health manpower and career mobility, mobility and testing

in the medical laboratory field, testing in the health professions, testing of nurses, granting academic credit by examination, transfer from military to civilian health fields, licensure, and other governmental regulations.

2. Evidence exists of increased flexibility in the training programs for certain of the allied health occupations. The H.E.W. report cited earlier describes a project concerning the design and evaluation of method for the systematic upgrading of allied health personnel. The project, sponsored by the Health Services and Mental Health Administration of H.E.W., is being conducted at New York University. The eight stages of the career development system are described as follows: [26, p. 96]

   a) entry level positions in which worker(s) can be immediately productive to the employing agency
   b) training programs integrally connected to entry positions
   c) a visibile career ladder between entry positions and higher positions
   d) training for higher positions directly through the job with portions of the training provided during the working day
   e) a close link between training and formal education

f) assignment of responsibility to the employer for "packaging" the training and making it available to the worker

g) upgrading new workers as well as already employed personnel

h) joint training of professionals and nonprofessionals

While the N.Y.U. project is a generalized approach to career development, one can find more detailed reports of specific projects in which lower echelon health workers have been elevated to more advanced positions. A report entitled "Upgrading Nurses Aides to L.P.N.'s through a Work Study Program"[35] describes a project sponsored by District Council #37, American Federation of State, County, and Municipal Employees (A.F.L.-C.I.O.) and the Health Services Administration of New York City. Funding for the project was provided by the Manpower Administration of the United States Department of Labor and the United States Office of Education in H.E.W.

The A.F.L.-C.I.O. project is significant in that it has demonstrated that many applicants who are usually not accepted in L.P.N. training programs can be successfully trained to function in a practical nurse capacity. The project staff selected 450 aides out of 2,800 applicants on the basis of achievement test scores, job evaluations, and attendance records. A group of "high motivation" students was included in the program to test the proposition that low achievement scores might be overcome by remedial education and the trainees' sheer persistence.

Three training cycles of 150 students each were organized. During the 14-month work-study program, trainees worked 20 hours a week at their regular jobs, for which they received the usual rate of pay, and went to school 25 hours a week. For this they received a training stipend. Income from both sources was roughly equal to the aides' regular pay.

The basic curriculum prescribed by the state department of education was followed, but it was supplemented with additional material to compensate for the trainees' long absence from formal course work. Certain aspects of the prescribed course of study could be reduced because the trainees obviously knew basic hospital procedures. The program required about 1,500 hours, approximately 300 more than the suggested minimum requirement. Many supportive services were offered, including a 6-week remedial program in reading and mathematics, counseling, individual tutoring, and review classes to prepare for the L.P.N. licensing examination.

Of the 422 people who completed the program, 385, including a substantial number of those designated as highly motivated, passed the state board examinations. Supervisors' evaluations of L.P.N.'s who completed the experimental program indicated that by and large they were as good as or better than L.P.N.'s who had completed the regular program. The project has since been extended to determine whether similar procedures via the work-study route can be used to upgrade L.P.N.'s to R.N.'s

3. New roles are being developed for assistants in the allied health fields.

In a recent message on health President Nixon addressed himself to the problem of utilizing assistants to a greater extent than has heretofore been considered practical:

> One of the most promising ways to expand the supply of medical care and to reduce its costs is through a greater use of allied health personnel, especially those who work as physicians' and dentists' assistants, nurse pediatric practitioners, and nurse midwives. Such persons are trained to perform tasks which must otherwise be performed by doctors themselves, even though they do not require the skills of a doctor. Such assistance frees a physician to focus his skills where they are most needed and often allows him to treat many additional patients.[21]

The President observed that the medical practice laws in most states prevent doctors from delegating certain responsibilities, such as giving injections, to their assistants. According to Dr. Merlin K. Duval, Assistant Secretary for

Health and Scientific Affairs at H.E.W., H.R.1, introduced in the 92nd Congress, contains provisions that would remove the legal barriers that presently impede the use of allied health personnel in federal programs. After legislation is enacted, a physician affiliated with a Health Maintenance Organization (H.M.O.) could delegate any of his functions to a person who is employed either by himself or by the organization. "No state law or regulation could penalize any physician, employee, or organization for such action. In performing delegated functions, of course, an employee would have to comply with criteria to be set by the Secretary of Health, Education and Welfare," said Dr. Duval [7]

Several states have enacted laws licensing physicians' assistants to function under medical supervision. Dr. H. K. Silver, one of the early advocates of this concept, has proposed a generic name for individuals "who practice in association, union, or together with a physician." He proposes the term "syniatrist" and recommends that there be three categories, depending on the degree of independence and competence expected from the syniatrist in the application of his professional skills. [30]

Several training programs have been established for physicians' assistants. The best known, perhaps, is the one at Duke University, which is a 9-month program for individuals who have had at least 3 years of experience as medical corpsmen or licensed practical nurses. The University of Washington has a similar program. Both institutions graduated their first classes in 1970.

Other programs are offered at the University of Colorado and at the Massachusetts General Hospital in Boston. Both train R.N.'s to become "Pediatric Nurse Practitioners." The University of Colorado also has a program for training "Child Health Associates." This program requires a one-year internship beyond a premedical-type undergraduate program.

Efforts to develop new medical assistant categories have parallels in dentistry. At the Forsyth Dental Center in Boston, the National Institutes of Health are sponsoring a project "to determine the feasibility of increasing the duties of dental hygienists in restorative dentistry by developing protocol, designing a curriculum, and studying the facility requirements for training the 2-year dental hygiene graduate."[26, p. 86] At the University of Pennsylvania, another N.I.H.-sponsored project is designed to demonstrate ways in which dental hygienists may be used in the treatment of periodontal diseases.[26, p. 86] The Howard University College of Dentistry in Washington, D.C. is also involved in a demonstration of how the role of the dental hygienist may be expanded so that she may function as a member of a dentist-dental hygienist team.[26, p. 91]

4. Efforts are being made to find alternatives to individual licensure.

Many of those who have been critical of mandatory licensure in the health field have expressed a preference for voluntary certification (under the auspices of professional associations) because they feel that the standards would be somewhat higher than they are under the present system. However, many of the shortcomings of licensure also apply to certification. The A.M.A. statement on licensure enumerates some of the limitations of certification:

> These include slowness in responding to changing service roles; lack of routes to certification or registration other than through completion of formal educational programs; duplicative educational requirements; restriction of upward and lateral career mobility; and lack of a mechanism to assure continuing competence.
>
> The study of accreditation, certification, and licensure being conducted jointly by A.M.A., the Association of Schools of Allied Health Professions, and the National Commission on Accrediting is intended to identify ways in which these and other shortcomings may be overcome through modifications in these institutions.[17]

A radical change in the structure of licensure has been proposed by Nathan Hershey and others who believe that institutional licensing should be substituted for individual licensure. Hershey points out that, under the present system, licensure specifies the scope of practice beyond which the practitioner may not go, making for rigidity and preventing the optimal use of personnel. He states that this has been one of the major barriers to innovations in modifying the staffing patterns of health care institutions. Hershey feels that the institution providing health care services, whether a hospital, clinic, neighborhood health center, or health maintenance organization, needs flexibility in order to meet the exigencies of delivering health care services.[15]

Advocates of this approach point out that, in practice, hospitals are already "certifying" competence by the limits they place on what physicians and other health specialists may do. The fact that a professional nurse is licensed does not automatically indicate which positions within the hospital she is qualified to fill. Hershey observes:

> Although by law a licensed physician has an unlimited scope of practice, the area of practice permitted a physician in a hospital is related directly to his personal attainments... The credentialing committee of the staff reviews the physician's past practice and education and recommends privileges in line with the competency he demonstrates...[15, p. 74]

In the approach advocated by Hershey, the concept of an individual's being licensed or not licensed would be replaced by the concept of his being competent or not competent to do a given job. Hershey observes that this system would provide a built-in safeguard against professional obsolescence:

> We would put an end to licensing a person for life, both because we know a particular individual may not remain qualified to be in a profession for life, and also because the profession may not exist in anything like the form it had when the particular person received his license. [15, p. 131]

Hershey observes that "the professional nurse who returns to work after a hiatus of 10 or 15 years might be qualified for positions currently held only by practical nurses or nurses' aides. As the nurse regained her skills and became familiar with professional and technological advances through inservice programs, she would be able to move on to a higher grade level and to duties consistent with it."

The concept of institutional licensing, while applicable to hospitals, clinics, H.M.O.'s, and the like, may give rise to problems when one considers the large number of physicians who practice independently and the number of allied health personnel employed either by a physician or by a hospital. Included in this group would be those working in industry, home health agencies, school health programs, rehabilitation centers, and special camps.

Hershey believes that the individual physician's office should be recognized as a small health care institution. According to him, "job descriptions and guides to the utilization of personnel could be prepared for the physician's office as an institution in much the same way as would be done by the licensing agency for currently recognized institutions" [15, p. 133]

The A.M.A. statement on licensure questions "...the qualifications and ability of any state agency to undertake the licensure and surveillance responsibility." It further notes "the danger of perpetuating rather than reducing the constraints on flexible and innovative use of manpower." As an alternative to having an official state agency monitor institutional licensing, the A.M.A. statement suggests creating a voluntary agency for this purpose. Such an agency might provide new flexibility in operation, but "problems with this approach include the political feasibility of such a voluntary agency and the amount of authority it would be able to exert." [17]

The American Hospital Association (A.H.A.) has endorsed the basic concept of institutional licensing in its outline for AMERIPLAN — a Proposal for Delivery and Financing of

Health Services in the United States. The A.H.A. proposal suggests that there be "national licensure for physicians, dentists, nurses, and pharmacists" to provide a guarantee of basic qualifications in these areas.[3]

The Health, Education and Welfare (H.E.W.) report on licensure includes the following among its departmental action recommendations:

> Determination of feasibility of national health professions certification. The Assistant Secretary for Health and Scientific Affairs will undertake and initiate the development of a report exploring the feasibility of establishing a national system of certification for those categories of health personnel for which certification would be appropriate. Should the development of such a system be considered feasible, the report shall include specific recommendations as to the organizational structure and the composition of the body that will be assigned overall governing authority for the system. The report shall outline the steps to be taken to achieve most directly the implementation of the plan.[26, p. 73]

Once established, such certification programs might facilitate interstate mobility of health personnel. State licensing agencies would undoubtedly be aware of the standards used for certification and if these were at least as high as those required for licensure, licenses could be granted to certified personnel without examination or review of credentials.

5. Proposals for insuring continued competency are under consideration.

One of the glaring shortcomings of licensure is failure to verify a practitioner's competence as a condition for license renewal. An individual is usually licensed at the entry level, immediately upon completion of training, and is then recertified routinely, without any effort being made to establish that he has kept up with his field or maintained his skills. Such a position with respect to licensing may have been justifiable in an earlier era when technological change was extremely slow. It hardly seems defensible in an era when the knowledge explosion can make a practitioner who does not keep up with his field obsolete in a decade or less.

Professional associations and leaders in the medical care field nave recognized the problem of monitoring competence and advanced proposals for dealing with it. In 1967, the Report of the National Commission on Health Manpower suggested that one way to insure continued competence of physicians "...would be to relicense periodically on the basis of acceptable performance in programs of continuing education or on the basis of challenge examinations for those who choose not to participate formally in continuing education." [12, pp. 41-42]

The idea of continuing education under the auspices of pertinent professional associations is an approach favored by many professional groups. However, there are numerous practical questions concerning this approach, such as the following:

What constitutes a "program of continuing education"?
Who defines it?
Who will provide it?
How will "acceptable performance" be determined?
What about practitioners who do not belong to the professional associations?
What about those who live in remote areas where formal programs of continuing education might not be practical?
What about those whose work schedules are such that it would be difficult, if not impossible, for them to participate in formal programs?

The concept of self-assessment examinations has emerged as a device through which specialists can determine, on a voluntary basis, their areas of weakness. At least twelve medical specialty organizations have introduced self-assessment programs, using examinations prepared by experts, to help members check up on their current knowledge. The program is entirely voluntary. Thus there is no incentive for the practitioner who is most out-of-touch with recent developments to request an examination or to seek to upgrade his skills.

The idea of mandatory reexamination for all licensed practitioners presents difficulties. Many physicians, for example, enter specialties. Should an examination for relicensure be general or should it focus on a specialty? After many years of experience, even the most skillful specialist may be poorly equipped to pass an examination in general medicine. Should he then be reexamined only in his specialty? Should he be licensed as a general practitioner or as a specialist? This suggests that the only realistic way to deal with relicensure may be in terms of specialties. Such a procedure is in fact followed daily in the hospital setting, where only certain licensed medical doctors are permitted to perform surgery and only those nurses with specialized training are allowed to function in an intensive care unit with its highly specialized equipment.

The A.M.A. statement on licensure recognizes the complexity of the issue when it recommends that "encouragement be given to programs for periodically updating the knowledge and skills of currently licensed or certified occupations, utilizing such methods as continuing education courses, self-assessment tests, and review mechanism." In commenting on this recommendation, the report goes on to say, "the proposed alternative mechanism needs further in-depth study as well, so as to identify and resolve potential problem areas and develop a workable overall approach, either incorporating the best features of each or substituting an entirely different mechanism."[17]

6. Proposed Model Licensing Laws

In place of piecemeal efforts to restructure licensing in the health field, some individuals have suggested the development of model laws to replace those presently on the books. Recently one such effort has come to the attention of the authors. Gary G. Clarke of the Eagleton Institute of Politics, Rutgers, the State University, New Jersey, has prepared a draft Model Practices Act [20] in cooperation with health officials in the state of Vermont. The first draft of the model law calls for the abolition of 9 existing boards (Medicine, Nursing, Dentistry, Optometry, Pharmacy, Physical Therapy, Podiatry, Chiropracty, and Osteopathy) and the creation of a single state Board of Health Manpower Licensing and Regulation. The new board would consist of 11 members—6 to be consumers of medical services and 5 to be providers of medical services (with no more than 2 from the same profession). In addition, the dean of the state medical college and the secretary of the state human resources agency would serve as ex officio, non-voting members. The board would license all health manpower in the following four categories: Doctor of Medicine, Doctor of Dentistry, Pharmacist, and Medical Care Specialist. The board would have the authority to define the scope of practice encompassed under the four categories and within any of the specialties established under these categories. The bill provides that Doctors of Medicine and Dentistry may delegate the authority to practice medicine to subordinates with the approval of the board. The bill also opens the possibility for experimentation in the area of institutional licensure by making it possible for the board to authorize up to 10 medical care institutions to delegate medical practice functions to non licensed personnel, subject to approval by the board.

The board would have authority to prescribe the type of examination to be administered, the subjects to be covered, and other pertinent details. The examinations would have to be revised at least every 4 years using the assistance of outside authorities in the field of medicine. The bill further states that "In examining the qualifications of individuals seeking licensure of medical practice and for re-licensure, the board shall give due consideration to actual experience and competence in place of academic training and shall devise methods of testing and giving credit for practical competence in lieu of academic competence." The legislation specifically encourages the board to consider methods of examination used by other states and nationally, in order to help "establish a minimum level of competence of all medical practitioners in the United States."

All practitioners of medicine would be required to be relicensed at least once every 5 years. Among the techniques suggested are: proof of continuing education, adequate performance in relicensure examinations, an audit of past professional performances or a combination of these approaches. Individuals not actively working in their field, would be required to be reexamined after a specified period of inactivity.

Other powers of the board would include suspension and revocation of licenses and the determination of penalties. All decisions would be subject to appeal to an administrative hearing officer and finally to the courts.

In addition to its licensing and regulatory duties, the board would be given the responsibility for long-range manpower planning, such as studying health manpower problems within the state, working with relevant statewide planning agencies, cooperating with appropriate state and national groups, and making recommendations regarding health manpower to the governor and the legislature.

From the foregoing description, it is apparent that Mr. Clarke and his associates are aware of many of the criticisms that have been directed at the existing structure of health licensure. They have tried to deal with these criticisms in a rational and systematic manner. Whether or not their concept of a single, consumer-dominated board is feasible in the light of the many complex issues entailed in the delivery of health care services will need careful study and deliberation. However, there can be little doubt that the Eagleton group has rendered a valuable service by proposing an innovative model to serve as a focal point for discussion and further planning.

III

LICENSING IN CONSTRUCTION TRADES

The logic of licensing practitioners in certain construction trades is compelling. Electrical wiring that fails to conform to code requirements may cause fires and subsequent damage to life and property. Gas leaks may cause explosions or asphyxiation. A building that is not properly constructed may collapse. It is not difficult to visualize a need for individuals involved in these aspects of construction to be experienced, to possess at least minimum competence, and to demonstrate familiarity with the requirements established by relevant sections of local building codes. Less obvious is the need for licensing those working at certain other activities related to the construction industry. In some municipalities operators of steam rollers, earth-moving equipment, and cranes are licensed. In others, excavating and grading contractors, painting and decorating contractors, fence contractors, landscape contractors, and even lawn sprinkler contractors are covered by local licensing ordinances. Possession of any of these licenses gives the holder enormous economic advantage, for he is protected from competition from nonholders. Indeed, so important has the license become that outsiders wishing to compete for business in an area where they do not have a license may seek out a license holder who is no longer actively engaged in the business and arrange to rent his master's license. In practice, this means that for a fee the license holder will sign the application for a building permit but will have nothing further to do with the job.

In order to understand the significance of various licenses, four terms should be clarified:

1. Journeyman — An individual who has completed a specified period of on-the-job training and is considered competent to carry out all the routine functions of a given trade is called a journeyman. In practice, the term is often applied to anyone who has had enough experience to be able to work at a given trade with a minimum of supervision, such as a journeyman plumber or a journeyman electrician. A journeyman works for a contractor and is not eligible to apply for building permits under his own name. Although he may function with a high degree of autonomy and even supervise the work of others, he does so, in theory at least, under the supervision of a master.
2. Master — To be licensed as a master plumber, a master electrician, or a master in some other skilled trade, the individual usually must acquire a specified amount of experience working as a journeyman and then demonstrate his competence on an examination. As a rule, only masters are allowed to contract for work or to apply for the necessary building

permits. The master is responsible for the work of journeymen under his supervision and for the overall quality of the jobs he performs.

3. Maintenance Plumber or Electrician — Large companies may employ plumbers and electricians to work full time on the repairs and maintenance of their plants. Such individuals are often required to be licensed. The qualifications for such a license and the examination are generally equivalent to those required for a master. However, the license restricts the activity of the individual to the premises of the company for which he works. He may obtain building permits only for work to be done on that company's premises. He may not contract for work elsewhere in the community. The term "special" is sometimes used instead of "maintenance."

4. Contractor — A licensed contractor is an individual who has satisfied certain legal requirements that entitle him to do business in a given field of specialization. Bonding and insurance provisions, a character investigation, and proof of competence are usually required. In situations where the contractor is not himself a master in the licensed occupation, his license may be issued contingent on his being able to employ as his on-the-job supervisor someone who holds a valid master's license. Should the

employee holding the master's license leave, the contractor's license would be suspended until he found and hired a qualified replacement.

WHAT IS LICENSED AND WHERE?

Of the many specialties and subspecialties in the construction field, plumbing and electrical work are by far the most frequently licensed. But to appreciate the tremendous diversity in licensing practices that exists across the nation, one must look at special situations. California, for instance, requires 61 varieties of contractors to hold state licenses; Dade County, Florida, requires apprentices, journeymen, and masters to be licensed in some 80 different categories.

Plumbers:

Plumbing illustrates the complexity and diversity of licensing throughout the construction field. Historically, plumbing activity has been a matter for local control. This made a certain sense as long as building codes varied greatly from place to place, but this is no longer the case. There are still certain regional variations in code requirements, but within a given region similarities tend to overshadow differences. Local government officials at one time had to assure themselves that an individual wishing to work in their community was not only a competent craftsman, but was also familiar with the local plumbing code. The system worked fairly well as long as plumbers restricted their activities to a few municipalities. However, as their sphere of activity expanded, they found it necessary to maintain licenses in a large number of communities. This proved to be an expensive nuisance.

Pressure for statewide licensing has increased over the years, so that today some 28 states license plumbers. Opposition to statewide licensing has come from plumbers who feel that such licensing makes it easier for outsiders to compete with them for local jobs. The public health and safety argument, when used to justify local licensing, is likely to be little more than a smokescreen to obscure self-interest.

There are many different licensing patterns for plumbing. In California the state has preempted the entire contracting field so that there is no local licensing of plumbing contractors. However, Los Angeles and San Francisco continue to license journeyman plumbers. The state of Oklahoma licenses both the journeyman plumber and the plumbing contractor; hence there is no local licensing of plumbers at all in this state. Texas also licenses plumbers but this does not prevent San Antonio from requiring a local license as well. When a statewide licensing law for plumbers was passed in Illinois, the city of Chicago was specifically exempted. This means that a holder of a state license is unable to work there unless he can satisfy Chicago's experience requirements and pass its examination. In Alabama, the cities of Birmingham and Montgomery have continued to require a local license even though the state has ostensibly preempted the field.

In the states that do not license plumbers on a statewide basis, many municipalities provide for such licenses in their building codes. In New York, each of the cities visited requires plumbing contractors to be licensed; however, only Troy requires the licensing of journeymen. Albany, Rochester, and New York City do not. In Arizona, the cities of Mesa, Phoenix, and Tempe require journeymen to be licensed, but Tucson does not.

Electricians:

Nationally, 21 states have some type of licensing of electricians. However, in the 11 states covered by this study, only 3—California, Florida, and Michigan—have statewide licensing of electrical contractors. This means that, by and large, the licensing of electrical contractors is a local matter. Virtually every city visited had such licensing. Exceptions were Mesa, Phoenix, and Tucson in Arizona, and Springfield in Illinois.

None of the states surveyed required journeyman electricians to be licensed. Among the handful of localities with such a requirement were Birmingham, Alabama; Dade County and Jacksonville, Florida; Muskogee, Oklahoma City, and Tulsa, Oklahoma; and Austin and Houston, Texas. Even major cities such as New York, Chicago, Los Angeles, and San Francisco and smaller cities such as Albany, Rochester, Montgomery, and San Antonio do not require journeyman electricians to be licensed. The underlying rationale given for not requiring a license in these cities is that since the contractor is responsible for the quality of the work done and for compliance with the electrical codes, he should be free to use any type of labor that local conditions permit. However, every job must be passed and approved by the city's electrical inspectors. Should the work be unsatisfactory, the contractor must bear the expense of making all necessary changes. It is this potential monetary penalty, say the proponents of licensing only contractors, that motivates the contractor to hire competent workers and to provide them with high-quality supervision. On the other hand, those who believe that journeymen should also be licensed argue that job supervision is frequently lax and local inspection perfunctory. They argue that only through licensure of the journeyman electrician can the public be assured of high-quality work.

Other Construction Trades:

In contrast to the rather widespread existence of state or local licenses for plumbing and electrical contractors, there is little uniformity with respect to the licensing of other construction fields. According to the National Association of State Contractors Licensing Agencies, 33 states license one or more contracting specialties. California, Arizona, and Hawaii—possibly because of their relative proximity—have similar approaches to the licensing of contractors. Each state licenses a number of identifiable contracting specialties. A partial listing from California is given in Table I. The list includes only 33 of the 61 specialties for which licenses are required. However, those on the list account for the great bulk of the licenses. Out of some 98,000 license holders, only about 5,000 are accounted for by the "limited specialties" not included in Table I.

While most municipalities have studiously refrained from licensing contractors, except in such fields as plumbing, electricity, and gas fitting, Dade County in Florida has moved vigorously to do so. In 1967, Dade County enacted legislation requiring 80 categories of construction-related work to be licensed. These were separated into four divisions: 1) the _building_ field, which includes the general contractor, the

TABLE 1

LICENSED CONTRACTORS IN CALIFORNIA*

Specialty	Total Registration
General Engineering Contractor	4,789
General Building Contractor	36,238
Boiler, Hot Water Heating, Steam Fitting	194
Cabinet and Mill Work	800
Cement and Concrete	2,156
Drywall	561
Electrical (General)	7,135
Electrical Signs	294
Elevator Installation	56
Excavating, Grading, Trenching, Paving, Surfacing	1,870
Fire Protection Engineering	106
Flooring (Wood)	470
Glazing	764
House and Building Moving, Wrecking	394
Insulation and Acoustical	499
Landscaping	1,936
Lathing	348
Masonry	1,917
Ornamental Metals	264
Painting and Decorating	7,248
Parking and Highway Improvement	92
Pipeline	86
Plastering	1,825
Plumbing	6,378
Refrigeration	684
Roofing	1,755
Sewer, Sewage Disposal, Drain, Cement Pipe Laying	972
Sheet Metal	1,134
Steel, Reinforcing	217
Steel, Structural	429
Swimming Pool	440
Tile (Ceramic and Mosaic)	1,228
Warm-air Heating, Ventilating, Air Conditioning	1,592
Water Conditioning	179
Welding	127
Well Drilling (Water)	505
Limited Specialty	5,894
Totals	**91,576**

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* Official Directory Licensed Contractors of California 1971-1973, Published by Contractors' State License Board, Sacramento, California

building general subcontractor, and the sub-building contractor, and covers some 30 building specialty categories encompassing such services as plastering, lathing, and swimming pool installation; 2) the electrical field, which includes contractors, masters, and journeymen as well as other workers involved with such specialties as burglar alarms, fire alarms, electrical signs, master television antennas, and low voltage communications work; 3) the mechanical field, which includes contractors, masters, and journeymen in 20 categories such as refrigeration, unlimited air conditioning, room air conditioning, and elevator installation; and 4) the plumbing field, which includes contractors, masters, and journeymen in such specialties as sprinkler systems, well drilling, and septic tanks. In addition to these, there are a number of other categories for which no examinations are required—12 in the building and one each in the mechanical (installer of room air conditioning) and plumbing (installer of temporary toilets) groups. There is no conflict between the licensing requirements of Dade County and those of the state except in three categories; and in these instances the county must accept the state license.

The licensing of contractors in other areas is very spotty. Although no systematic effort was made to discover all the different types of licenses, the following list will give some idea of the diversity encountered: masonry contractors, drain tile contractors, and boiler installers are licensed by Chicago; warm-air heating and ventilating contractors are licensed by Montgomery, Alabama, and Muskogee, Oklahoma; heating and air conditioning contractors are licensed by Tampa, Florida, and Austin and San Antonio, Texas; fence contractors are licensed in Oklahoma City.

Operators and Installers:

There is also a spotty pattern of journeyman licensing in various specialties related to the construction field. Only 7 of the 25 cities surveyed license gas fitters; only 3 license elevator installers; and only 1 or 2 communities licensed workers in such other specialties as heating and air conditioning, refrigeration, forced-air heating, sewer-tile laying; and electrical work on elevator installations.

The operators of construction equipment are subject to licensing in certain large cities. In both New York and Los Angeles, operators of heavy construction equipment such as steam rollers, pile drivers, bulldozers, road graders, and cranes used in building construction must be licensed. It seems somewhat incongruous that only 2 of the 25 cities surveyed found it necessary to license such operators. Perhaps other communities are relying on the self-interest of the various contractors or on the screening procedures of the respective unions to insure that only qualified operators are permitted to use complex, expensive, and potentially dangerous heavy-equipment machines.

Structural welders are licensed by four cities in the survey—New York, Los Angeles, Phoenix, and Jacksonville. In New York City it was learned that, because of the shortage of skilled personnel in this field, licensing requirements were not being enforced. The city is willing to allow the large structural steel contractors—such as Bethlehem Steel and the American Bridge Company—to use their own screening devices to insure that the men working on their projects are qualified. A city official remarked that although he had never checked it out, he was reasonably sure that the tests used by these companies were at least as stringent as those given by the New York City Department of Personnel for this occupation.

Attempts to summarize the kinds of occupations subjected to licensing and to delineate the level at which control is exercised reveals no logical pattern. Licensing in the construction field seems to form a crazy quilt of inconsistencies and incongruities that can only confuse and befuddle anyone endeavoring to comprehend why some occupations are licensed in certain situations but not in others. If Chicago, Los Angeles, and Tampa find it necessary to license journeyman plumbers, why do they not find it equally compelling to license journeyman electricians or journeyman gas fitters? Why do some communities—notably New York—feel that it is wholly unnecessary to license journeymen in these crafts? What prompts some cities to license welders and operators of heavy equipment, while others manage without such licensing?

WHO DOES THE LICENSING?

While the basic requirements for licensure are generally spelled out in the state law or local ordinance that created a given license, the implementation of the legislation is nearly always delegated to a board. In view of the extensive powers entrusted to licensing boards, it is only natural to ask who the people are who make up these boards. How are they chosen? How long do they serve? What compensation do they receive? To whom are they accountable?

In most instances the composition of a board is specified in the basic legislation. This is no accident. Whenever state or local licensing legislation is under consideration, the various segments of the industry that may be affected by the law exert all the political influence they can muster to insure that the interests of their constituents will be protected. The law almost always stipulates equal representation for conflicting-interest groups——usually the contractors and the journeymen engaged in a licensed occupation. The law generally specifies that board members must be residents of the state or municipality doing the licensing, hold a valid license themselves, and have practiced for some specified period, usually 5 years or more. However, it would be misleading to suggest that a licensing board in the construction trades is made up exclusively of practitioners in the occupation concerned. In addition to one or more contractors and one or more journeymen, the law frequently specifies that certain other categories be represented. Plumbing boards frequently include a registered mechanical engineer and a representative from the state or local health department (generally a sanitary engineer). At the local level, the chief plumbing inspector and a representative of the buildings department are often included to provide "public" representation. In some states——notably California——there are one or two lay members on each licensing board. In Alabama, the law calls for three "citizen" representatives on the 7-man plumbing board.

Electrical boards follow a similar pattern with pertinent variations. In addition to electrical contractors and journeyman electricians, the chief electrical inspector is generally included on a licensing board either as a voting member or as an ex-officio member. A number of local laws also provide for representation from the insurance underwriters and from the local power company.

Board members are usually appointed by the chief executive of a licensing jurisdiction—that is, the governor in the case of state boards and the mayor or city manager in the case of local boards. In making appointments, officials are usually guided by the wishes of the relevant trade associations and building trade unions. If a master plumber or a plumbing contractor is specified, the selection will usually be made from a list of names submitted by the state—or local—association of plumbing contractors. If a journeyman electrician is called for, the nominations will probably come from the electrical unions. It came as no surprise, therefore, that when those within the establishment were interviewed, they generally expressed satisfaction with the composition of licensing boards and with their representation on them.

Individuals representing a given segment of the industry seemed to have the respect of those whom they represented—at least they could be counted on to look after the interests of their group. Apparently those outside the establishment, in many instances, are not quite as enthusiastic. Nonunion journeymen and minority group members often viewed the boards as potentially hostile to them. They often said that they anticipated difficulty should they seek licensure or should they be called before the board for either a licensing or a minor code infraction. By contrast, in certain regions where the construction industry is not highly unionized, union officials complain of discrimination and harassment by boards that they feel are anti-union.

To what extent is the public interest actively represented on licensing boards—as distinct from the interests of those actively involved in the industry? Some people regard the engineers, architects, and other specialists who serve on boards as representative of the public interest. But these specialists seem to view themselves primarily as technicians rather than as public representatives. In states and communities where the law provides for lay representation on licensing boards, complaints were often made by board members that such representation contributes nothing to board operations since these people lack the background and specialized knowledge needed to participate in the examining process or to make informed judgments on matters relating to the building code. One cynical trade association representative in California remarked that, "It generally takes only a few months to brainwash the public representative so that he's painfully aware of his limitations; thereafter, he's usually willing to go along with whatever industry wants."

The term of appointment to licensing boards varies widely. Some members are appointed for 1- to 3-year terms, although some terms are as long as 5 or 7 years. As a rule, there is no stipulation as to the number of terms a board member may serve, and it is not uncommon to find the same individual being reappointed over and over again. At the state level, an element of political patronage can be detected. Board members usually serve at the pleasure of the governor, and it is not unusual for a new board to be appointed whenever there is a change in the administration. Where fixed terms are specified, the chief executive may replace incumbents with individuals of his choice as their terms expire.

In view of the way in which board members are appointed, to what extent can it be said that politics enter into the operations of various boards? There were few complaints about political pressure either from board officials or from members of licensed occupations. Some board executives acknowledged that they sometimes received inquiries from the governor's office or from members of the state legislature as to the status of a given application, but they denied that such expressions of interest led to any special treatment of the applicant. There is, of course, no way of knowing for sure how much influence is brought to bear on individual board members.

Serving on a licensing board is a time-consuming and often thankless task. Many of the boards in the construction trades meet each or every other month to administer and grade examinations, to review the qualifications of applicants, and to review charges relating to code violations or infractions of board regulations. Many board members receive no compensation, while others may receive from $10 to $25 per day plus travel expenses when attending board meetings. In some states, there is a limit as to the number of meetings for which board members may be compensated; in some instances not more than 12 in one calendar year. However, this does not seem to keep board members from meeting more often, even if they are not reimbursed for their time or travel. In some cases, the amount of compensation to board members is linked to income from fees, as in Oklahoma City, where the electrical licensing ordinance states that payments for each meeting shall not exceed the income from test fees.

Selection of a licensing board poses a serious dilemma. The very people most likely to be thoroughly conversant with their craft are also likely to be involved as businessmen. They can hardly be expected to function as disinterested judges of the fitness of others to enter their own occupations. Each time a master's license is issued, the contractors on the board must realize that the newcomer may soon be competing with them and with other established contractors in the area. Each new journeyman who is licensed may be perceived by journeyman representatives on the board as a potential competitor for available jobs. It is this dilemma that has given rise to the widespread accusation that licensing boards are self-serving and exclusionary, that they exist mainly to keep aspiring newcomers from encroaching on or entering the ranks of what are often highly lucrative occupations.

Most licensing officials interviewed were quite candid about their methods of operation. There were a few notable exceptions. In one city the official responsible for licensing activities was very evasive. His list of occupations licensed by the city proved to be woefully incomplete. He was unable—or unwilling—to provide ordinances covering the boards for which he is responsible. These had to be searched out in the municipal library. When this man was asked for information about the number of applicants who had applied for various licenses related to the construction trades, he stated that such data were not available—despite the fact that the ordinance under which he operates specifies that one of the duties of the secretary of each licensing board is to maintain an accurate record of applicants for licensing, together with information as to those passing and failing. When questioned about the availability of an annual report, the official replied that he compiled one each year and sent it to the city clerk's office. Upon checking with the clerk's office, those investigating were informed that no such reports were received. When told about this, the official said that this was "too bad," because he never kept file copies of such reports.

In only one other instance was similar resistance encountered. This occurred in a southern city where the clerk of a board suspected that the survey might have something to do with discrimination. The clerk adamantly refused to give out any information beyond that which could be obtained from reading the local licensing law. Although few boards were found to maintain good records, most officials were willing to share whatever information they did keep. It was not uncommon for board officials to offer to go through the minutes for the past year or two in order to tabulate pass-fail rates and other pertinent data. Many voluntarily offered to make the board's minutes available so that any information that might prove of interest could be extracted.

While most licensing activity is conducted under the supervision of a policy-making and decision-making board, several situations in which the licensing agency operated without any legally constituted board were encountered. Two examples will illustrate the phenomenon.

> New York City has no licensing boards. All licensing activities are handled by administrative units within the city government. The building code is enacted by the City Council, and it is on this body that the various interest groups attempt to exercise their influence. When the building code is adopted or amended, implementation, including the licensing and policing of practitioners, is assigned to various departments of the city government. The Department of Water Supply, Gas, and Electricity is responsible for the licensing of master electricians. The Department of Buildings is responsible for licensing master plumbers, portable engineers, stationary engineers,

crane operators, structural welders, and installers of oil burning equipment. The Fire Department licenses installers of underground storage tanks and refrigeration machine operators.

Although individual departments have the administrative responsibility for issuing licenses and enforcing the licensing ordinances, it is the Department of Personnel which determines the qualifications of applicants (in terms of the requirements established by the Building Code) and prepares and administers the written and performance examinations on which licensing is based. The names of those who pass the tests are sent to the appropriate departments which then issue the licenses.

For only one occupation, plumbing, does the Department of Personnel in New York City make use of an advisory board to assist in the examination process. The various plumbing unions and the associations of plumbing contractors in the city each nominate a person to serve on this board. It is made up of three union representatives (plus three alternates) and three contractor representatives (plus three alternates) who are drawn by lot from the pool of nominees. Their major function is to administer and grade the performance test all applicants must take in order to obtain a master plumber's license.

Chicago has 3-man boards for licensing plumbers, stationary engineers, mason contractors, and several other occupations. However, it has no board for licensing electrical contractors and supervising electricians.

There is an Electrical Commission consisting of the chief electrical inspector, an electrical contractor, a journeyman electrician, a representative of the fire underwriters, a representative of the power company, and a registered professional engineer. The sole responsibility of this commission is the formulation of an electrical code, which is enacted as an ordinance by the City Council, and the recommendation of changes in the code from time to time. The code specifies the requirements for the licensing of electrical contractors and supervising electricians, but the implementation of the licensing provisions is left entirely in the hands of the chief electrical inspector who passes on the qualifications of applicants; prepares, administers, and grades the examinations; and generally determines the fitness of applicants to be licensed.

The foregoing illustration suggests that it is possible to separate the policy functions from the administrative functions in the management of a licensing program. The merits of this model should be examined critically to determine if there may, in fact, be advantages to such a separation.

WHAT DOES IT TAKE TO BE LICENSED?

Ask anyone what is required to become licensed as a plumber or electrician and he is likely to tell you, "You have to pass a test." His answer will be correct——as far as it goes——but in most states and cities there is considerably more involved. An applicant will almost certainly have to prove that he has had some minimum amount of training and experience. He may have to prove that he is a United States citizen or that he has declared his intention of becoming one. In some places he will not be eligible unless he has reached a specified age and completed a specified number of years in school. Many states require literacy in English. Something euphemistically called "good moral character" is still another requirement frequently specified among the prerequisites for licensing.

Are requirements such as those just named universal, or nearly so? Or are they largely a matter of local option? If the latter is the case, they could have a profound effect on the potential mobility of skilled workers from one area to another. A person who is fully qualified in one location may find that he is not eligible to work at his trade in another locality because he cannot meet one or more of the prerequisites. Since these requirements represent hurdles that the applicant may have to surmount before he can obtain a license to work at his trade, it is important to examine each one critically.

Experience

The experience requirement is undoubtedly the most important prerequisite. Only rarely does one encounter a licensed occupation which does not require some specified period of experience or some combination of training and experience. By virtue of a quirk in the way legislation was written establishing a joint city-county licensing board covering Tulsa, Oklahoma, passing a written test is the only requirement for obtaining a journeyman electrician's license in that city. Since the written test deals exclusively with the electrical code, all one needs to do in order to obtain a journeyman's license in Tulsa is to study the code intensively. A local "cram" school, called the Tulsa Electrical College, has made a specialty of preparing people to take the examination. This "college" does not bother to teach any "hands on" skills, since none are required to pass the test.

The situation described above is admittedly unusual, but not unique. In the plumbing field, for example, Alabama does not stipulate a minimum number of years of training or experience that is required in order to obtain a license. However, because it is not mentioned does not mean that experience is not considered. It is the policy of the state board to evaluate each applicant's training and experience on an individual basis. If the board is satisfied that an individual has had a sufficiently broad and varied type of experience, he will be permitted to take the test. On the other hand, an individual who has had many years of experience of a limited type might be judged to lack adequate experience and be denied an opportunity to sit for the examination. In Alabama the test includes a performance section, as well as two written sections.

Texas is another state which does not require any set amount of experience. The board feels that anyone who can pass its rigorous written and performance tests is qualified to be licensed. A follow-up study of successful applicants showed that on the average they had about 6 years of experience.

Oklahoma has a 2-year experience requirement for a journeyman plumber but stipulates a longer period for plumbing contractors.

Illinois' law requires that one serve a 5-year apprenticeship; however, completion of an approved course of study at a trade school or college is credited as experience.

Municipal licensing of journeyman plumbers is quite another matter. For one thing, most cities lack the resources to develop or administer performance examinations; hence they tend to rely heavily on a formal experience requirement. Birmingham, for example, requires a 3-year apprenticeship; San Francisco, 5 years; Chicago requires either 5 years of experience or evidence that the applicant is a graduate of an approved program in sanitary engineering or plumbing.

A number of states and municipalities do not license journeyman plumbers but do license the master plumber or contractor. In California, 4 years of experience as a journeyman is required. In New York City, it takes 10 years of experience; however, if the applicant is an engineering graduate, he is allowed to take the test if he has at least 3 years of experience. In Rochester, an applicant must have had at least 9 years of full-time experience in either plumbing or steamfitting. Credit is given for time spent as an estimator or as the designer of plumbing or steam heating systems.

The requirements for licensing in the electrical field show similar variability. While Tulsa has no experience requirement, in Oklahoma City candidates must show at least 3 years of experience either as an apprentice or as a licensed journeyman in another municipality. Houston and San Antonio both require a 4-year apprenticeship. Chicago does not license journeyman electricians, but requires that supervisory electricians (equivalent to master electricians) have at least 2 years of experience. New York City, on the other hand, stipulates that the applicant have at least 7 1/2 years of experience. A graduate electrical engineer is required to have 3 1/2 years of practical experience, while the graduate of an approved trade school is required to show 5 1/2 years of such experience.

The experience requirement for licensure as stationary engineer also shows considerable variability. One of the most stringent experience requirements was found in New York City. It applies to both stationary engineers and portable (steam) engineers. In order to be licensed in these occupations an individual must show that he has worked as a fireman, an oiler, or a general assistant to a licensed operating engineer of high pressure boilers (for stationary engineers) in New York City for a period of 5 out of the 7 years immediately preceding the date of application. Allowance is made for experience as a journeyman boilermaker or for work as a machinist in the construction repair of steam boilers, but the experience must have been acquired in New York City under a licensed stationary or operating engineer. This makes it extremely difficult for any outsider to gain employment in New York City, no matter how much experience he may have had elsewhere. When unreasonably stringent experience requirements are encountered there can be little doubt that the intent of the requirements is exclusionary.

By contrast, Rochester has what appears to be a far more reasonable system. There are four grades of stationary engineers in Rochester, ranging from a chief engineer who can handle a plant of any horsepower to a second-class engineer who can handle only a 100-horsepower plant. To become a third-class engineer, one must show at least one year of practical experience acceptable to the board. The second-class engineer must show 2 years of experience as a third-class engineer and is permitted to handle a plant of up to 500 horsepower. The first-class engineer handles plants of up to 1500 horsepower and must have had at least 3 years of experience at the second-class level. The experience may have been acquired anywhere. Tulsa follows an almost identical pattern. Although these requirements appear reasonable, there is no evidence to show that the progression from fourth class to first class could not be accelerated through the use of training and suitable proficiency tests.

To obtain a stationary engineer's license in Chicago, according to the ordinance, the applicant must be a machinist or engineer with at least 2 years of practice "in the management, operation, or construction of steam engines or boilers." An applicant for lower-level work, such as boiler tender or water tender, must demonstrate to the board that he has "a thorough knowledge of the construction, management, and operation of steam boilers." No length of time is specified. In addition to passing a written test, the applicant is required to describe, in writing, what his experience has been in the management and operation of steam boilers. This experience record is taken into consideration by the board in arriving at its decision. Obviously, this procedure leaves much room for abuse. However, since information about pass-fail rates was not available from licensing officials in Chicago, it is difficult to tell whether or not the subjective review of experience is being used as an exclusionary device in this instance.

Age

There appears to be little consistency with respect to age requirements for licensing. Many states and cities have omitted any reference to age in their ordinances, possibly because they recognized that by the time an individual had acquired the necessary experience to qualify as a journeyman or master he would certainly be old enough to assume the responsibilities of a licensed craftsman. However, where age requirements are specified, there is wide variation.

For the most part, the minimum age required to obtain a license in the construction trades is 16 or 17, although in Los Angeles, as in Illinois, it is 21. Curiously, in New York City one must be 21 to be a master electrician, but no minimum age is set for a master plumber; portable and stationary engineers must be 21; a master sign hanger must be 25. Again, there are no age requirements for structural welders or crane operators.

While the matter of age would seem to be of little consequence in view of the lengthy training and experience requirements prevailing in the construction trades, it would seem that an effort should be made to achieve greater consistency. Perhaps the whole question of whether an age requirement is needed at all or whether it should be imposed only when there is a sound rationale for doing so should be raised. For example, it might be desirable to require that contractors be of legal age. This is not to suggest that an individual might not achieve the status of a master craftsman at an earlier age, but in view of the legal responsibility involved in the contracting business, it would seem only prudent that a contractor be of an age at which he may legally enter into contracts.

Education

Unlike the laws covering many of the health and service occupations, which specify that an applicant must have completed a certain number of years of formal schooling, the licensing laws relating to the construction trades rarely contain any reference to formal schooling. It would seem that the legislative bodies which established the licensing requirements recognized that skilled trades such as plumbing are usually learned through apprenticeship or on-the-job training and seldom in the public school setting. However, many apprenticeship programs today require applicants to provide evidence of high school graduation. Some apprenticeship programs will accept a high school equivalency certificate in lieu of a high school diploma, but many will not.

Most of those interviewed did not feel that there was any good reason to have a minimum educational requirement as a prerequisite for licensure. However, several contractors thought that requiring a high school diploma might be a good idea. A plumbing contractor in Oklahoma supported this viewpoint with the argument that plumbing was becoming increasingly complex and that the mathematics, science, and reading skills taught in high school were essential to success. If this is indeed the case, licensing officials should probably be examining candidates with respect to their mastery of those aspects of these subjects needed for effective performance in each occupation. The possession of a high school diploma, per se, hardly guarantees that the holder has actually achieved a specified level of mastery in these skill areas.

Citizenship

The notion of granting a license to someone who is not a United States citizen—or who has not, at least, declared his intention of becoming one—is apparently repugnant to certain lawmakers. Anyone seeking a plumber's license in Illinois, for example, is not eligible unless he is a citizen or has taken out naturalization papers. Other states which license plumbers on a statewide basis—namely, Texas, Alabama, Michigan and Oklahoma—do not impose this requirement.

At the municipal level, Chicago follows the lead of the state in requiring citizenship. New York City is also stringent in this regard. Master plumbers and master electricians as well as portable and stationary engineers, structural welders, and sign hangers must be citizens. Curiously, citizenship is not mentioned in the licensing requirements for installers of oil-burning equipment or for installers of underground storage tanks. Rochester requires citizenship of plumbers, electricians, and stationary engineers. Albany has a similar requirement. However, Los Angeles, Phoenix, Montgomery, Houston, and San Antonio do not require citizenship for any of their construction trade licenses.

It is difficult to discern any pattern with respect to the citizenship requirement. When asked what he thought of this requirement, one union official shrugged and said, "If a man's going to earn his living here working at a good trade, the least he can do is become a citizen of our country." Some might argue this point, perhaps asking whether denying an individual the right to earn his livelihood in an honest vocation is the most effective method at our disposal of convincing a foreign-born craftsman that he should become a citizen.

Good Moral Character

Although the requirement of "good moral character" is seldom defined either in licensing legislation or in the rules and regulations of licensing boards, it is generally interpreted to mean that an applicant has never been convicted of a serious offense, such as a felony. However, there appears to be no consistent pattern with respect either to defining or to enforcing the requirement. In the city of

Los Angeles, character references are required for all licenses. These are verified, but no fingerprints are taken, nor is a check made with the police. In Los Angeles County—which has reciprocity with the city of Los Angeles with respect to journeyman plumbers—no character check of any kind is made. In Chicago, plumbing and masonry contractors must submit character references. Stationary engineers and boiler and water tender applicants must submit affidavits from at least two citizens that they are "of good character and temperate habits." Moreover, the Commissioner of Police must also certify that an applicant is of good character. However, in the city government department responsible for licensing supervising electricians, no check is made as to the character of applicants. The chief electrical inspector stated that he is concerned only with the "competence of the applicant in the field of electricity."

In the city of New York, no formal character reference is required. While applicants must document all their experience, no investigation is made to verify their statements. The character of an applicant is not checked with either his former employers or with the police.

In California and Arizona, where state agencies license various categories of contractors, character checks are systematically made. Arizona checks all references as well as police records. California has an elaborate system of character verification for would-be contractors. Applicants must produce a letter of reference and proof of financial integrity, such as a good credit rating. In addition, the state compiles a list of all applicants which is posted for a set period of 20 days and circulated to other states. This permits anyone who may have derogatory information about an individual to bring it to the attention of the board.

Not all states are as diligent as California and Arizona. Although Alabama's plumbing board considers good moral character essential, it neither checks the applicant's police record nor inquires into his character by contacting previous employers. In Illinois the law does not make any stipulation regarding good moral character, but the application form requires an individual to reveal any felony convictions. In Texas the plumbing board asks for similar information. Furthermore, the staff investigates and presents details of its findings to the board to aid it in arriving at a decision concerning the applicant's eligibility. In Oklahoma an applicant for a journeyman plumber's license or for a contractor's license is required to name the contractors under whom he gained his experience. However, no check is made of these references. The licensing agencies in Rochester require character references, but similar boards in Tulsa, Muskogee, and Oklahoma City make no inquiries as to a person's character. In Montgomery the character requirement seems innocuous enough. The applicant for a plumbing license must submit letters of reference from three licensed plumbing contractors in the city. What does a black journeyman do, however, when there is only one black plumbing contractor in the community? A journeyman in this situation can only hope that two of the white contractors are willing to vouch for him when he seeks to become licensed.

Many points of view were elicited regarding the merits of investigating the character of applicants. One plumbing contractor in Tulsa stated that he was concerned about good character because a plumber has access to private homes where he would have many opportunities to pilfer personal property. He also stated that children are often around and he did not think it wise to permit anyone with a history of child molesting to work in homes where he might be tempted to molest a youngster. The chief electrical inspector in Oklahoma City took a contrary view. He felt that the licensing board should concern itself exclusively with a man's skill. "It is up to his employer to check on character," he said. Several contractors who stated that they would not hire anyone without first checking with previous employers and trying to find out if the man was honest, dependable, and a good worker echoed this viewpoint.

Differences in viewpoint reflect differences in preceptions and expectations of the "good character" requirement. Some would like to see licensing boards pass judgment on the moral fitness of each individual before he is issued a license. The license would then not only represent competence in the licensed occupation but would also provide assurances to the public and to potential employers that there was no blemish on the license-holder's character. However, few boards seem to have sufficient staff or resources to conduct meaningful investigations. Most of the boards that claim to take character into consideration acknowledge that their efforts are, at best, perfunctory. They rely on the applicant's own statement—despite the fact that, when verified, these are frequently found to be inaccurate. The boards also tend to accept letters of recommendation at face value. Checks are seldom made with local police or with authorities in other communities where the applicant has resided. Very little effort seems to be made to ascertain from former business associates whether there may be derogatory information in an individual's background which should be considered by a licensing agency.

It might be in the public interest to have licensing boards abandon any pretense that they seriously check the character of applicants. It would rest solely with an employer to use his own means, ingenuity, and resources to determine whether a prospective employee was suitable for the type of work he had in mind. The criteria of acceptability would vary with the situation. An employer who concentrated on new high-rise construction might be understandably less concerned about hiring a person with a police record than one who worked mainly on residential repairs.

While the approach suggested might work well for journeymen, since there would be a contractor between the worker and the customer, it would pose problems in the licensing of contractors, because here there is no intermediary between the licensed individual and the client. On balance it seems that agencies which license contractors cannot escape responsibility for screening applicants. What should boards look for in their investigations? The customer is concerned primarily with two things: 1) Is the contractor qualified to do the work? 2) Can he be trusted to fulfill his commitments? Whether the man beats his wife or has served time for a serious crime such as murder are probably not legitimate concerns. However, a history of bankruptcies, failure to meet financial obligations, and failure to make good on contracts are matters of legitimate concern. Licensing agencies would be derelict if they did not do everything in their power to keep unethical practitioners from setting up shop and if they did not revoke the licenses of those who failed to honor their commitments. In recent years the Contractors' State License Board in California has denied relatively few licenses —about 50 a year out of over 2,000 applications. However, in 1966-67 some 729 contractors had their licenses suspended and 447 had their licenses revoked following hearings on complaints. These data suggest that the screening being done may be slipshod since it fails to keep out the incompetent. More stringent screening of applicants and more rigorous enforcement of rules for those licensed seem mandatory.

Literacy in English

Many jurisdictions specifically require that applicants be able to read, write, and speak English as a condition for obtaining licensure and they make no exceptions. New York City falls into this category, as do Rochester, Albany, Austin, and San Antonio. In Oklahoma plumbing contractors must be literate in English, but journeyman plumbers need not be.

Some jurisdictions do not have a specific literacy requirement in their licensing law, but it is a de facto prerequisite because all examinations are given in English, with no provisions for testing applicants who are unable to read and write that language. Illinois falls in this category as do the cities of Montgomery, Birmingham, and Los Angeles. In Oklahoma City the electrical inspector stated that although there had been a number of requests from candidates to take the test orally, the board has never seen fit to grant such a request.

By contrast, a number of states and municipalities take a sympathetic and enlightened attitude toward the competent craftsman who may be functionally illiterate or who may be literate only in a language other than English. The Alabama plumbing board allows applicants to take the examination orally and will permit the use of an interpreter if arrangements are made in advance. The Contractors' State License Board in California will give tests orally to qualified candidates or arrange for them to bring an interpreter. The Arizona contractors board follows a similar policy. The Texas plumbing board has a Spanish-speaking examiner on its staff to administer the test to those whose primary language is Spanish. Among the municipalities that make an effort to accommodate applicants with language problems are Houston, Phoenix, Tempe, San Francisco, and Tulsa.

The widely discrepant practices found with respect to the literacy requirement raise many questions. How important is it for a license holder to be able to read, write, or speak English? If some state and municipal boards have found it possible to license applicants who do not do so, how can the denial of licenses by other boards in similar circumstances be justified? What are the legal implications of the literacy requirement? For example, in New York State, the courts have ruled that Spanish-speaking citizens may qualify to vote by taking their literacy test in Spanish. Is it reasonable to insist that licensing examinations be given only in English? These are some of the issues that need to be faced by legislative leaders and licensing officials if the licensing laws are not to become unfair barriers to members of minority groups seeking to advance themselves economically.

HOW IS COMPETENCY TESTED?

At the heart of any licensing system is the procedure used to evaluate the competence of applicants. Most boards use written tests to serve this function; a few also employ performance measures. How good are these tests? To arrive at an informed judgment one needs to look not only at what the tests measure, but also at the way in which the measuring is done. One should ask such questions, as: Who makes up the test and what are their qualifications as test-makers? How are the questions checked out? What is done to insure that questions are clear and unambiguous and that the answers are correct? Under what conditions is the test given? Does everyone have the same opportunity to demonstrate his knowledge and skill? Are the answers graded in an objective way to be certain that each candidate receives his correct score and that no bias enters into the grading process?

When the appropriate questions are asked about the tests used for licensing applicants in the construction trades, one begins to have serious misgivings about the quality of the examination process. The examinations are nearly always prepared by practitioners in each occupation such as plumbers, electricians, contractors, and engineers. Such individuals generally have high levels of competence in their fields of specialization, but they seldom have any expertise in the art of writing test questions. As a result the items they produce are crude. True-false questions and short-answer essay-type items are commonly used. When multiple-choice items are used, they often have serious defects such as more than one correct answer, internal clues that suggest the right answer, and trick aspects with one or more distractors very close to the correct answer. These defects can easily mislead the applicant. Although most boards make some effort to review test items before they are used, the process usually consists merely of having other board members read them. Only on rare occasions do board members themselves take the test, answer the questions independently, and then check to see how closely their answers agree with those of the intended key. It is also rare to find a board that tries out the test questions to see if they can be answered by qualified workers in the field involved. As a rule, no effort is made to determine whether a question is too easy or too hard. Even after tests are administered, few boards tabulate the results to obtain data such as the percentage of the applicants who answered each question correctly.

Only a few board members who understood what is meant by the term "item analysis" were encountered. Virtually all professional testing groups use item analysis as a standard procedure in determining whether an item is functioning as intended. Information obtained from item analysis not only serves to identify items that may be too easy or too difficult but also helps to spot questions that may be defective. One would want to look critically at an item that was answered correctly by most of those who scored low on the test as a whole and yet was missed by many of those who received high scores on the total test. Since item analysis procedures are rarely used by licensing boards, it would not be surprising to find that the quality of their examinations is poor by professional standards.

Few boards seem to have any systematic method of assuring that a test administered on one occasion is comparable in coverage or difficulty to tests given at other times. Few have definite outlines as to what should be covered on the test; most boards seem to feel that a test is a set number of questions dealing with a global subject. Usually the person responsible for assembling a test selects whatever items he considers appropriate; this becomes the examination. Rarely is a check made to see if certain topics were included or omitted, or whether a given form of an examination contains a preponderance of very hard or very easy items.

The tests examined in the course of this study tended to have a strong textbook flavor—probably because many of the questions had come from textbooks or from published question books used by candidates to prepare for licensing examinations. Several boards acknowledged that all of their items are taken verbatim from one such study guide. When papers are graded, the boards use the answers in this book as the key; only a verbatim answer is likely to receive full credit. Answers that deviate from those given in the book generally are given less than full credit. In the electrical field, most of the boards interviewed base their examinations on the National Electrical Code. Answers must follow the language of the code closely. Emphasis thus tends to be placed more on memorization than on problem-solving or application of the code.

Sketches of the way in which examinations are handled by several boards follow:

Rochester-Electrical Contractors

The 3-hour test consists of 75 items. The questions are drafted by a 3-man committee and deal primarily with the National Electrical Code, the city licensing ordinance, the city electrical ordinance, and the gas and electric company's book on service and meters. Questions are selected from a central card file. Papers are scored by the chairman. At the time the candidate takes the examination, he is asked for his comments on such things as: Was the test hard or easy? Was it fair or unfair? Was he prepared for it? Candidates are not told that any comments they make will be considered by the board in evaluating their test performance. A score of 75 percent is required to pass.

Albany-Plumbing Contractors

The test consists of 20 to 30 items based primarily on the plumbing code. The questions are usually prepared by the chairman of the plumbing examining board, who is a contractor. The items are not reviewed by other board members because they are usually "too busy"; neither are the items tried out or analyzed in any fashion. The chairman says that he endeavors to "keep the test simple" so that anyone who works in the plumbing field should be able to pass. There are 75 to 100 items in the pool. Each time the chairman prepares an examination, he draws the necessary number of items from this pool.

In addition to the written test, the applicant is given a plumbing layout which may contain errors. He is required to make changes where appropriate. There is no time limit, but the entire test usually takes 2 hours. At least two board members score the test. The applicant must score at least 50 percent on the written test and 50 percent on the blueprint exercise. A total score of 75 percent is necessary in order to pass. This score was established by tradition.

Oklahoma City-Electricians

Applicants for a journeyman's license are required to take a written test only; those seeking a master's license must take both a written test and a performance test. The test for journeymen contains mainly items of the true-false and short-answer types. Questions are prepared by the chief electrical inspector and his assistants. The inspector then reviews the questions with members of the board, but they are not tried out before use. Items are assembled into tests and used interchangeably for two or three years before being revised. Many of the questions are carried over from one test to the next. An effort is made to keep items closely related to the demands of the job, so that most of them can be answered by those having a knowledge of the electrical code. The test usually takes 30 minutes and contains between 20 and 25 questions. Applicants do not receive any advance information about the test. Should they ask, they are advised to study the code. Papers are scored by board members. Each paper is scored only once unless the scorer feels that some point is not clear, in which instance he may seek the opinion of another member. A failing paper is always scored by at least one other board member to insure that the failure stands. The passing score is set at 75 points out of a possible 100.

The written test for contractors takes longer. If the applicant passes, he is told to return for a blueprint exercise which consists of making a labor and material breakdown of the work shown on a blueprint. This section of the test takes approximately 2 1/2 hours.

New York City-Various Occupations

All licensing examinations are prepared by the staff of the city's department of personnel. Although there are no formal test specifications for the various licensing examinations, the tests are prepared by civil service examiners who are qualified engineers. Through discussions with the various departments concerned with licensing, such as the Department of Water, Gas, and Electricity which licenses electricians, and the Department of Buildings which licenses plumbers, the examiners feel they have gained a good background as to what the requirements are. Questions are reviewed internally. Usually 30 to 40 percent of the examination involves the code and 60 to 70 percent deals with trade knowledge. Most of the examinations are multiple-choice, although some are still of the essay type.

Usually a test contains 70 multiple-choice items and 5 essay questions. The multiple-choice test is machine-scored; the essay tests are read by two examiners and their scores are averaged. An applicant must earn a score of 70 percent on the written section before he is scheduled for the practical examination. Practical tests are administered twice a year in the specially equipped examination laboratory located in the Hall of Records. The test in refrigeration is given in a large refrigeration plant; the stationary engineers' examination is given in a public building; the portable steam engineer's test is given in a place where the applicant can operate such equipment as steam rollers, and small cranes. The department was recently given the responsibility of testing operators of cranes with long booms. Since the city does not own such equipment, it is necessary to rent tall cranes at a cost of $200 to $300 a day each time the examination is given.

In most instances the examiner rates the applicant as good, fair, or poor on various aspects of the job. For example, in the stationary engineer's examination, ratings are made by two examiners in 5 areas of job performance. A rating of "poor" in any category disqualifies the applicant.

On the master plumber's examination, an advisory board helps to set the task and is present while the examination is administered. The advisory board is selected by lot from names submitted by the Association of Plumbing Contractors and by the various plumbing unions in the city. The test always contains a lead-wipe joint problem that takes about 4 hours to complete. There have been a number of complaints regarding the use of the lead-wipe routine as the sole practical test. According to many practitioners, the procedure is obsolete since most of this type of work is now done in a shop by machine. Nonetheless, the unions and the contractors insist that this test be retained. When all the candidates have completed the lead-wipe test, their products are placed on a table and examined by the board and by examiners from the Department of Personnel. Samples are checked for workmanship and conformity to specifications. One sample is then selected as a standard. This is never the best; otherwise very few would pass. Neither is it the poorest; otherwise too many would pass. Each product is judged against the standard and assigned a number grade. An individual's score is the average of the number grades assigned by all the judges. The fact that, during an average year, out of a total of 200 candidates 50 percent pass the written portion but only about 25 percent pass the practical portion attests to the difficulty of this part of the examination. This appears to be an unusually high fail rate, especially when one considers the fact that as a requirement for eligibility, a journeyman must have a minimum of 10 years of experience before he is permitted to take the test.

Texas-Plumbers

The techniques used in examining plumbers in Texas merit detailed description because nothing quite like them was encountered anywhere else. The written (multiple-choice) examinations were initially developed in consultation with plumbers from all parts of the state. These plumber consultants outlined the topics and skills that needed to be covered. After an examination has been given, comments and suggestions are solicited from candidates and their recommendations are given consideration when changes are made in future tests. New questions are tried out on regular candidates who have finished the formal test. These items do not count, but candidates' reactions are said to be very helpful in evaluating the questions before they are included in the regular test form. The board has hired outside experts to review its test questions. It has also employed test specialists from the University of Texas to perform item analyses on each part of the examination.

The most unusual aspect of the Texas plumber's testing program is the practical examination. This test is administered in a very modern testing facility especially designed for the purpose. Several large rooms contain miniature houses built to a one-fifth scale. Each model includes miniature pipes and fittings, and a candidate can be required to do the plumbing for an entire house. The houses are constructed in such a way that they can be lifted completely off the foundation. The ground floor can be lowered first, then the second floor, and finally the roof, thereby giving the candidate the feeling that he is working on a house under construction. The accessibility of the entire house is important because of the need for venting pipes and for overall planning. Candidates are told to examine the entire house plan; to assess the need for materials; and to make a complete list of the pipes, fittings, joints, and fixtures that would be needed in order to plumb the model. This list is given to one of the three examiners who obtains the tools and supplies requested. When the materials arrive, the candidate proceeds to perform the necessary tasks. The examining room has 8 such model houses and stalls in which certain required tasks are performed.

The grading procedures used by the Texas Plumbing Board have been standardized considerably. If a candidate is required to cut pipe, his work samples are compared with standard lengths that contain built-in tolerances. Where the quality of work is involved, an assembled unit is available for comparison purposes. In order to determine whether the system as a whole is satisfactory, a two-story plumbing set up is used so that the examiners can tell whether conditions are present within the system which might result in contamination.

Oklahoma-Plumbers

While the examination system used in Oklahoma by the Board of Plumbing Examiners is not as elaborate as that found in Texas, it has a number of interesting features. The licensing examinations are administered by a committee of plumbing examiners responsible to the State Commissioner of Health. The committee is composed of three members: a plumbing contractor, a licensed journeyman, and a sanitary engineer from the state. The examination has three parts: 1) there is a written test that has 108 items for contractors and 50 items for journeymen. These questions are all multiple-choice, true-false, or short-answer types; 2) there is chart work that involves drawings of a cross section of a building with fixtures shown in various locations. The applicant must draw in the drains and venting. He must also show hot and cold water circulation. The building shown in the drawings for the contractor's test is at least three stories high and includes public-use fixtures. The candidate must make a complete "take-off" of the material needed for the job. The building shown on the journeyman's test is not as complex as the one used for contractors. The journeyman applicant is required to show only the sizes of lines, drains, and venting; 3) there is a practical test administered in a laboratory at the State Department of Health in Oklahoma City. It includes such activities as: a) cutting, yarning, pouring, and caulking cast iron pipe; b) copper sweating; c) threading and fitting screw pipe; d) identification of tools, fittings, and fixtures; e) offset problems in fitting pipes. The journeyman and the contractor take an identical practical test. Once a person has passed the practical part, he is not required to take it another time. Thus, a journeyman who later appears for the contractor's test need only take the appropriate written examination.

Questions for the examination are prepared by the sanitary engineer and members of his staff. The same test is administered to candidates throughout the year, but it is revised annually. Whenever a new member joins the board, he is asked to study the current test and to make changes. There are no formal specifications to guide in the development of the examination. Questions are merely selected from topics that members think appropriate. Items which were made available for inspection appeared to be realistic and closely related to the demands of the job. After the questions are prepared, they are reviewed by other board members. There is no systematic pretesting or item analysis. Board members try to make notes regarding questions that seem to be too easy or too hard. These are modified for future examinations.

The total examination takes approximately 6 hours. The written test usually takes 1 1/2 hours. The practical section takes about 2 hours, while the blueprint problem takes about 2 1/2 hours. Answer sheets are graded by board members. The board has attempted to minimize subjectivity in grading the performance tests by developing rating sheets which require the judge to consider specific points with respect to a given task. For example, when making a lead and oakum joint, the following points are taken into consideration:

	Value	Grade
1. Alignment Deduct credit if hub and spigot are not matched or if pipe is cracked.	20	

		Value	Grade
2.	Identification of class of pipe.	5	—
3.	Yarning Deduct credit for improper amount of jute, if not packed evenly.	25	—
4.	Pouring Deduct credit if improper amount of lead is used; if too cold; if pour is sloppy; or if more than one pour was made.	25	—
5.	Caulking	25	—

Final ratings are not made until the entire task has been finished. The joint is then taken apart so that the quality of the end-product can be seen. A jig is used to check the depth and straightness of the caulking. It is also possible to verify the fact that the applicant made more than one pour. After the ratings have been made, the joints are reassembled and stored for 30 days so that they can be used as evidence in the event that the applicant files an appeal.

The examples discussed should make it evident that there is wide variability in the way in which licensing examinations are handled by state and local agencies. Not only do they differ with respect to the skills tested, but also with respect to the examining procedures and methods of scoring used.

The conclusion one reaches from reviewing licensing procedures in the construction trades is that, on the whole, boards lack the

the expertise in test construction which is needed to do a competent job. For the most part, board members appear to go on naively developing, administering, and scoring tests—which can have awesome significance in the lives of others—without any apparent awareness that the modern science of measurement is well advanced and has a well developed body of rigorous methodology which rests in turn on a solid theoretical foundation. It seems that it is obligatory for those who are in a position to influence the ability of their fellow citizens to earn a livelihood by issuing or not issuing a licence that will enable them to pursue their chosen occupations to apply this methodology with scrupulous care. The public is poorly served and inadequately protected when boards continue to use pathetically crude licensing examination procedures.

WHAT HAPPENS IF AN APPICANT FAILS?

To the individual seeking licensure, the possibility of failure is very real, and the consequences may have great significance for his personal fortunes. Having a license may determine whether or not he can work at his trade, be promoted to a supervisory capacity, or, possibly, branch out into a business of his own.

The applicant who passes the licensing examination has no problems. But the one who does not fare well has good reason to be concerned about the policies and practices of the board which has jurisdiction over the license he seeks. When he receives definite word that he has failed, he probably wonders:

Where did I go wrong? Will they tell me my score? Will they let me see my paper? Will they give me any suggestions that will help me do better next time? If he missed passing by only a small margin, he may also wonder about the possibility of having his paper reviewed to see if additional credits might not be assigned somewhere to push his score over the critical passing point. He is almost certain to wonder whether he will have to repeat the whole examination or only the part he missed. How soon will he be permitted to take the examination again? Will he have to file a new application and pay the full fee?

The likelihood of passing the licensing examination for a given occupation on the first attempt seems to vary from place to place. Although it proved difficult, and often impossible, to obtain hard data regarding pass-fail rates, the estimates provided by licensing officials exposed obstacles that an individual might anticipate in various communities. In Oklahoma City the chief electrical inspector estimated that about 95 percent of the applicants for a journeyman's license fail on the first attempt. He said that on the second try, about half of them pass and on the third attempt, nearly all pass. Virtually no one applying for an electrical contractor's license passes the first time, but most applicants pass the second time. It would appear that the main reason for this high initial failure rate is that applicants are given no information whatsoever about the test. If they ask, they are advised to "study the code."

Most people apparently take the test the first time simply to find out what they should study. Once they find out, they seem to experience little difficulty in passing. All this seems inexcusably circuitous and needlessly expensive. Since nearly everyone is going to pass eventually, why not provide applicants with adequate information and sample questions in the first place? This would bypass all the wasteful steps in between.

Chicago is another city that gives no information to applicants about what to expect on the examination. In 1968 there were about 135 first-time applicants for the supervising electrician's license. Of these, 43 or approximately 30 percent passed. There were also about 135 applicants who were repeating the examination for the second or third time. Of these, only 10 passed!

The chief of the Bureau of Electrical Inspectors in Chicago reported that the person most likely to pass was "a 40-year-old journeyman with about 20 years of experience as a foreman working directly under a supervising electrician." In such a job he would have had the opportunity to learn the code, or he might have spent years studying the code on his own. Such a person, he said, might manage to pass the test the first time. But a typical electrician working as a journeyman without deep involvement with code problems "would never pass, no matter how often he tried."

In New York City the chances of passing on the first try would appear to be only slightly better. According to licensing officials, there are about 175 applicants for master electrician's licenses each year. About 85 manage to pass the written portion of the test and 75 manage to pass the practical examination. Anyone who passes the written test is given three opportunities to take the practical, which is offered only twice a year. While the proportion of applicants who succeed on their first attempt is unknown, it would appear that fewer than half of the applicants manage to pass both parts, even after several attempts.

The pass rate for master plumbers in New York is even lower. Of approximately 200 applicants annually, half manage to pass the written test, but less than 25 percent can pass the practical part of the examination, despite the fact that a minimum of 10 years of experience is a prerequisite for taking it. Fewer than 50 licenses for master plumber are issued annually!

The situation in other parts of the nation does not appear to be as restrictive. In Oklahoma, the State Board of Plumbing Examiners reports that about half of the journeymen applicants and about half of the contractor applicants pass on their first attempt. Here, good information is available beforehand so candidates are aware of what to expect. Approximately 90 percent of those failing the first time pass it on their next attempt. It is rarely necessary for a person to try three or more times.

In Arizona, the contractors' board reports an even higher pass rate: about 85 percent manage to successfully complete their rigorous 8-hour examination the first time. This is attributed to the fact that applicants have adequate information beforehand as to what areas the test will cover. As a result, they come to the examination well prepared.

The chairman of the Electrical Board for the City and County of Tulsa said that approximately 70 percent of the applicants had been passing the examination for journeyman electrician on their first attempt prior to the time that he became chairman. He attributed this passing rate to the fact that the same pool of items had been used for many years. He said that people who knew he was on the board would stop him on the street, show him a list of questions they had obtained from former applicants and ask, "Are these the questions I'll be getting on the test?" The chairman said he would reply, "Yes, they're the questions we are using now, but you'd better hurry up and take the examination because we won't be using them much longer." In June of 1969, the board began using newly written multiple-choice questions and the pass rate dropped precipitously.

Some boards recognize that applicants who score just below the cut-off may, indeed, be qualified. In Rochester, where the cut-off score on the plumbing examination is 75 percent, the board routinely reviews papers of applicants who score between 70 percent and 75 percent. An effort is made to "squeeze out" the additional points, if at all possible. In Hillsborough County, Florida, the plumbing board permits applicants who scored between 69 and 74 to take a group of additional questions on the local code. If they do well on this supplemental test, they are granted a license.

In Birmingham the plumbing board reviews papers of borderline applicants to see if they have made careless mathematical errors. Such individuals may be called back to rework the problems and, if they turn in satisfactory papers, they will usually be passed. In Montgomery a man who fails to qualify for a master electrician's license by one or two points will be allowed to compensate if he has a reputation for "good work on the job."

Policies which benefit borderline cases may be construed as desirable, in one sense, since they prevent "false negatives" from being arbitrarily rejected. From the consumer's point of view, however, they may be difficult to justify for they erode the significance of the established passing score. If the test was assuredly a good measure of minimum of competency, the minimum passing point for each separate part of the test as a whole should be realistically determined and adhered to, regardless of such mitigating factors as good references. Perhaps the fact that flexibility is frequently tolerated is in itself an acknowledgment of how poor licensing examinations are!

A number of boards take an all-or-nothing viewpoint toward licensing examinations. In Jacksonville an applicant can pass the written test, the drawing exercise, and the performance test at one time. If he should fail any one of the three, he must repeat the whole examination. By contrast, Los Angeles, where journeyman plumbers are required to get an overall score of 70 percent with not less than 60 percent correct in each of four areas, a candidate is given the opportunity to retake any one of the four parts without paying another fee. He does not have to repeat the part he previously passed.

In New York City the candidate must pass the written portion of the examination; then he is allowed three chances to pass the practical portion before he has to file a new application. The fee for each retake is half the amount of the original fee.

The plumbing board in Oklahoma does not require the applicant to retake any part of the test on which he scored over 70 percent. He is not licensed until he has earned 70 percent on each of the parts. The state contractors' licensing boards in Arizona and California follow a similar policy of requiring retakes only of those parts of the examination that a candidate failed.

Applicants who fail usually want to know why they did not pass and what they can do to improve their chances of passing on the next attempt. Board officials in many states and communities indicated that they welcome such inquiries from an unsuccessful applicant and will arrange for him to go over his paper with either a board member or with the chief inspector in the licensed occupation. There is little doubt that individual applicants would take these steps if they realized that such assistance was available.

Some communities, such as Rochester do not permit an applicant to see his paper, but board officials will ask him the questions that he missed and will discuss the answers with him. Frequently, the chief plumbing or electrical inspector will review in some detail the paper with an applicant and point out his weaknesses to him. Unfortunately, where examinations are given on a statewide basis, as in Texas, California, Arizona, and Oklahoma, it may become necessary for the applicant to travel to the state capital in order to avail himself of this opportunity. The expense involved in making the trip may be prohibitive; consequently, many cannot take advantage of this consultation service.

The length of time that an applicant must wait before being retested also varies considerably, and there is often a disparity between the waiting period set by law and that applied in actual practice. In California an applicant for a contractor's license is required to wait 90 days before being retested. Nonetheless, in practice, an individual is permitted to try again as soon as he feels he is ready. Applicants for a contractor's license in Arizona may try the examination again after waiting 30 days. They are entitled to 3 chances before refiling and paying the full fee. Some cities specify a 6-month waiting period. Among them are New York, Oklahoma City, Albany, and Muskogee. Not all boards within a city necessarily apply the same standard. The plumbing, masonry, and stationary engineer boards in Chicago specify a 6-month waiting period, but the Department of Electrical Inspectors, which licenses electrical contractors, permits an applicant to try again within 30 days. A waiting period of 30 to 60 days seems to be the one most commonly specified. After an applicant has failed twice, the typical board appears to lose interest and does not want to see him again for another 6 months or more.

As far as could be ascertained, most boards treat the person who is retaking the test in the same way as an initial applicant. If only one or two forms of a test are available, it is certain that a repeater will have an opportunity to try again with the same test that he failed on a previous attempt. The chief of the electrical bureau in Chicago expressed a somewhat unusual viewpoint on retesting. He indicated that the examinations given during an applicant's first and second attempts are roughly equivalent in difficulty. Should he fail these two tests and reappear for a third attempt, he is given "Form C", which is considerably more difficult than the first two forms. The chief's reasoning was that these applicants "have had more time to study" and should therefore be able to pass a harder examination.

Boards display some leniency with respect to the fees charged for retakes. The contractors' boards in California and Arizona allow an applicant to take the examination twice; after an initial failure, the boards require payment of only a nominal fee of $20 and $10, respectively. After that, the candidate must refile and pay the full fee. New York City has a similar policy, but only for those who pass the written examination but fail to pass the practical test. Such candidates are allowed to try the practical test two more times for a fee that is only half the basic registration fee—$10 to $15. After the third try, they must refile and pay the full fee.

Since fees are not very large, it is doubtful that the monetary penalty poses a serious burden on the applicant. He is more likely to feel the financial pinch of travel expenses, especially if examinations are given only in the state capital. Applicants for all state-level examinations in Texas must travel to Austin. A plumber from El Paso is required to spend about $90 for plane fare, plus the cost of a hotel room and subsistence, in order to take the state plumbing examination. These expenses would be repeated should he have to take a second or third retest. Similar centralization is found in Arizona, Oklahoma, and Florida. However, in these states, the amount of travel required would not be as burdensome on applicants as it is for Texans, since the distances are not as great. California has managed to decentralize its occupational and professional licensing. The test for contractors is administered twice each month in the cities of Los Angeles, San Francisco, and Sacramento and once a month in Fresno and San Diego.

What of the applicant who refuses to accept the verdict of the board regarding his test score? As noted, many boards allow applicants to come in for a face-to-face discussion with one or more board members. If an applicant is still not satisfied, he may appeal to the full board. Little indication was obtained from discussions with officials of boards that they would be likely to reverse any previous decision. However, the minutes of the electrical board in

Tulsa revealed that during a 6-month period nearly half of all applicants who protested their scores were able to have their grades raised. For a number of candidates the few points gained were sufficient to push their scores above the required passing point. With the adoption of multiple-choice questions, officials in Tulsa anticipate that the number of appeals will dwindle.

In addition to appealing to the original licensing board, some cities permit an applicant to seek redress from the governing body—such as the city council. This procedure rarely works because the legislative body generally refers the whole matter back to the board. To get away from having the same body serving as judge and jury of its own actions, a few communities have made provision for independent review bodies. In Oklahoma City an aspiring journeyman or master gas fitter who is dissatisfied with his score may appeal to the city plumbing commission. This procedure will cost him a $25 fee, but at least he knows that his appeal will be considered by a body which has the authority to overrule the examining board.

In New York City, an applicant who scores between 65 and 70 percent is given an opportunity to examine his papers and the answer key. If he feels that the key is in error or that his answer is also correct, he is permitted to file an appeal with the Board of Errors and Appeals in the Department of Personnel. The examiners who prepared the disputed question must provide the board with a full explanation, together with supporting evidence. Occasionally the board will accept the applicant's argument and grant him additional points which may be sufficient to put him above the cutting score.

As a last resort, applicants may appeal to the courts for redress. Apparently this seldom happens. Board officials interviewed had difficulty recalling any specific instances. The authors have been led to hypothesize that applicants for licensure are keenly aware of the great economic power possessed by licensing boards. For this reason they do not seem to be inclined to challenge the verdict or the authority of a board for fear of reprisal. Evidently applicants prefer to keep trying to pass the examinations, no matter how poor the questions may be or how arbitrary the scoring. If they aspire to become members of the "club", they must play by the rules and accept the verdict of the authorities. This may explain why court challenges are so rare, despite the fact that the tests involved would probably be highly vulnerable in a court case. This vulnerability has recently been demonstrated in New York City, where candidates for promotion to higher offices in the police department have successfully challenged the Civil Service Commission with respect to its examinations. The New York courts have ruled that the burden of proof is on the Civil Service Commission to demonstrate that its answer to a disputed multiple-choice question is demonstrably superior to the one selected by the applicant. If the commission was unable to prove conclusively that its answer was better, the candidate's answer was to be considered "as good" and he was to be given full credit. Although disputes of this kind have thus far been limited to promotional tests for policemen and firemen, there is no reason why disgruntled applicants for licensure may not someday take a similar approach.

In an effort to reverse the trend and to halt further litigation, the New York City Department of Personnel has initiated significant reforms in its test development and item review procedures. To counter the assertion that the Department of Personnel sits as both judge and jury when its staff reviews the protests of candidates, the mayor has established an independent Test Review Board. This board has two representatives from the Department of Personnel, two from the relevant line organization (sergeants, lieutenants, or captains) and a fifth member chosen by the other four from a panel submitted by the American Arbitration Association. This board now reviews all protests and recommends the final answer key for each examination to the Civil Service Commission. The results thus far have been highly satisfactory. The New York experience is indicative of what a city or state can do to improve the examination process in occupational licensing.

WHAT IF ONE SHOULD MOVE?

The question of mobility is of crucial importance to those engaged in the construction trades. A craftsman seeking work in another location may find that his ability to take a job or obtain a building permit is limited by licensing requirements imposed by the state or community he plans to go.

The situation nationally can best be described as chaotic. Although a number of states have statewide licensing, few have worked out arrangements to recognize the licenses issued by other states. An individual who moves to another state must usually meet that state's licensing requirements.

When licensing officials were asked for their views on reciprocity and on licensing by endorsement, few showed enthusiasm for either concept. Although many acknowledged that they knew very little about licensing practices, even in neighboring states, they showed no hesitancy in claiming that their standards were higher than those of other states or that it would not be in the public interest to permit "foreigners" to obtain licenses without going through the usual formal procedures. There were a few exceptions. An Oklahoma official concerned with the licensing of plumbers indicated that he wished that some sort of reciprocity agreement could be worked out with Texas and Arkansas. He noted, however, that Arkansas does not require its applicants to take a practical examination; hence one could hardly rate its licensing requirements as comparable to those of Oklahoma, where all applicants must pass a performance test. However, this argument is not valid for Texas because that state does give all applicants a very comprehensive practical test. It is, of course, possible that Texas would not consider the Oklahoma test sufficiently rigorous, since it is not as elaborate or as detailed as the one given in Austin. The officials interviewed were not certain whether the possibility of reciprocity or licensing by endorsement had ever been explored seriously by the two states; but they were sure that at the present time every applicant had to take the test, regardless of where he came from.

A public health official who heads the plumbing board in Alabama indicated that while he personally would like to see licenses from other states "endorsed" if the requirements were comparable to those of Alabama, he thought this was unlikely since both contractors and unions were strongly opposed to the idea.

The same psychological and economic barrier which prevents reciprocity and licensing by endorsement among states also appears to deter these practices within states. Most cities visited during the survey do not have reciprocity agreements even with their neighbors. Although differences in building codes were sometimes cited as a reason for this, officials would often acknowledge that in reality the differences were small, especially in the electrical field, where the National Electrical Code is frequently incorporated verbatim into local building ordinances. Other reasons given for not favoring reciprocity were lack of uniformity in licensing requirements and differences in testing procedures. Many officials stated that they would not object to reciprocity if they could be guaranteed that the standards and procedures used by another municipality or state were equivalent to their own. In Chicago, the plumbing ordinance permits an individual to be licensed without an examination if "equivalency" can be established. Officials claim that few people use this route because it involves considerable delay and red tape. It is easier for an in-migrant to take the test rather than to wait for months while city officials decide if the requirements in another city are "equivalent" to their own.

A few communities apparently have reciprocity arrangements that seem to be working satisfactorily:

> Detroit
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> In the greater Detroit area, there is a Reciprocal Electrical Council which oversees the mechanics of reciprocity. The council was established in 1942. It antedates the reciprocal provisions established under the state law which was enacted in 1956. The council seems to be an excellent example of the way in which a number of communities can coordinate their licensing activities.
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> In 1970 the Detroit Reciprocal Council included 130 member municipalities. New communities are admitted upon request. All participating member communities must conform to practices outlined in a *Manual of Operations*. Under this

arrangement, each local unit has its own electrical board, but every board must follow certain standardized procedures, such as making use of a standard application form, investigating the qualifications and experience of applicants, and administering a uniform examination. All boards set the same standards. For example, journeymen are required to show 4 years of apprenticeship or equivalent training in a technical school. A minimum of 1 year of practical experience is also stipulated.

A central file is maintained on all applicants who have qualified under the reciprocal agreement. If a local board issues a license which is restricted in any way, it must be stamped "nonreciprocal." Such licenses are not accepted by the other jurisdictions.

Los Angeles

The city of Los Angeles has a reciprocity arrangement with the county of Los Angeles regarding the licensing of plumbers. Although licensing officials in the two jurisdictions do not cooperate actively in establishing requirements or in the examining process, each jurisdiction appears to have sufficient information as to what the other is doing so that plumbing licenses are honored interchangeably.

Cities in Texas

Austin, Waco, and San Antonio seem to have an amicable reciprocity relationship in the electrical field. When an electrician from one of these cities wishes to work in either of the other two, he presents a letter from the chief electrical inspector in his home city to the electrical inspector in the other city, and a license is issued immediately. The chief electrical inspector in Austin reported that efforts to include Dallas and Fort Worth in this arrangement were not successful when it was discovered that some of the electricians licensed by these cities were not fully qualified. Lack of mutual trust in one another's procedures led to a breakdown in reciprocity.

Phoenix

Phoenix does have full reciprocity with the cities of Glendale, Mesa, Scottsdale, and Chandler in the licensing of journeyman plumbers, but officials pointed out that the arrangement is sometimes used to circumvent the local licensing requirement which stipulates that an applicant who fails the test must wait 30 days before he can try again. An applicant who does not pass in Phoenix may go to Scottsdale to take the test there. Should he pass, he returns to Phoenix to obtain a license under the reciprocity agreement. Licensing officials in Phoenix feel that statewide licensing would solve this problem and provide greater mobility for qualified individuals.

In states which have preempted the licensing of certain occupations, it is generally easier for license holders to move freely about the state than in states which such licensing has been left in the hands of local governing units. In

Oklahoma the statewide licensing of plumbers makes it possible for journeymen and contractors to work anywhere in the state. By contrast, since there is no statewide licensing of electricians, a journeyman electrician or electrical contractor must be licensed by each separate municipality in which he seeks work. This creates a burden on the individual. Not only must he take several different local licensing examinations, but he must also pay renewal fees each year amounting to hundreds of dollars, according to a number of contractors. Even in states with licensing programs, legislatures frequently grant specific exemptions or permit cities to pass ordinances exempting them from the state licensing laws. A good example is Chicago, where a plumber with a valid Illinois license must nevertheless take the city's examination before he is permitted to work there. The justification given for this requirement is that Illinois is predominantly a rural state and that electrical standards in Chicago are much higher than they are elsewhere. Michigan also has an unusual arrangement. Under a local-option provision of the state law, a journeyman electrician is not required to obtain a state license if he happens to be licensed by a city, village, township, or county that has adopted electrical standards more stringent than those required by the state statute.

When queried about the seemingly pervasive lack of reciprocity in most cities, officials tended to minimize the inconvenience and to deny that it worked any serious hardships on qualified craftsmen. Several pointed out that the waiting period to take the examination was seldom more than a few weeks and that although no issuance of a temporary license was provided in the law, it was often possible for a newcomer to work without a license until such time as he could take and pass the examination. One refrigeration and heating inspector said that if a man filed an application between examination periods, he would be allowed to work under a master and would not be challenged provided he took the test the next time it was offered. It is difficult to document such a statement.

Another device used to circumvent licensing is to call someone awaiting licensing an "apprentice." According to the law he must work under the supervision of a licensed journeyman, but he can be paid scale wages.

Contractors and union officials interviewed frequently referred to "travelers," who are union members from other localities placed on jobs through union hiring halls. Travelers are accepted by contractors despite the fact that they are unlicensed and are therefore working illegally. Licensing boards are well aware of this practice but are either unwilling or unable to do anything about it. A labor official in the

Detroit area said he thought that travelers were a valuable asset because they were a source of skilled labor during peak construction periods. He noted that work permits are issued to travelers only as long as all members of the local union are fully employed. Once the labor situation becomes slack, the work permits of such persons are withdrawn, and the available jobs are taken by local craftsmen.

From the union's point of view, the use of travelers eases the pressure to increase the local supply of skilled workers, which could mean an oversupply during slack periods. However, from the public's point of view, it would appear that licensing requirements are suspended, and a nonpublic agency is given the right to perform a public function. Since the possession of a union membership card does not necessarily guarantee that an individual has completed a comprehensive training program, that he has acquired the full range of competencies required of a journeyman, or that he knows the local code, it would seem contrary to the public interest to accept this practice without any safeguards.

The foregoing discussion assumes that the public interest does, in fact, require that journeymen be licensed. Yet, journeymen are not licensed at all in many places where only the contractor is required to be licensed and is held fully responsible for the quality of the work performed by his employees. A representative of the National Association of State Contractors Licensing Agencies indicated that his group was strongly opposed to the licensing of any journeymen. He pointed out that the contractor is legally responsible for his work; consequently, this man could see no useful purpose in licensing journeymen. In fact, he felt that licensing interferes with the right of the contractor to determine the qualifications of the workers he needs for a given job. He further noted that "a contractor might have a good working crew and might want to use this crew for a job in another area." Licensing regulations might prevent him from taking his crew with him to the other job.

Most of those interviewed on the matter of licensing journeymen did not acknowledge that local licensing was a device to keep outsiders from working in a given locality and thereby insure employment for local residents. At a hearing on an ordinance to repeal the licensing of journeyman plumbers in Los Angeles, proponents of licensing argued vigorously that such licensing was necessary to protect the health and safety of residents and that it served to upgrade the status of workers. Even though the strongest opposition to repeal came from union officials, not once was the question of job security openly cited as a factor.

It would seem that the abolition of all local licensing in favor of state licensing of contractors would represent a significant step forward toward increased mobility for workers in the construction industry. Greater efforts should be made to facilitate licensing by endorsement wherever practical. There can be little doubt that uniform national examinations would greatly expedite this process.

WHAT HAPPENS TO MINORITY GROUP MEMBERS?

The only licensed Negro plumber in Montgomery County, Alabama at the time of this study reported that he had spent four years learning the plumbing trade at Talladega College, but that when he attempted to obtain a license, he faced seemingly insurmountable barriers. He took the local examination three times and was told each time that he had failed. He was not told what his score was nor was he allowed to see his examination paper. Although he lacks proof, he believes that he did make a passing score on each occasion. Finally he took and passed the state master plumber's examination and then managed to use his state license as a means of obtaining a local license in Montgomery County. Since then Montgomery County has modified its licensing law so that holders of a state license must also pass a local examination. No licenses have been issued to any other Negroes.

The problems faced by the Negro plumber in Montgomery County illustrate what minority group members may be up against in certain states. For one thing, it is very difficult for them to obtain the training and experience necessary to qualify for a license. Negroes are usually excluded from the union-sponsored apprenticeship programs. According to the director of the all-Negro vocational school in Montgomery, no plumbing courses are offered because the local union is unwilling to cooperate in establishing them. The only way a Negro can obtain experience locally is by working for the only Negro contractor. However, there is no assurance that those who gain their experience under his tutelage will be able to qualify for a license since the law requires that each applicant must submit references from three locally licensed plumbers. Because he is the only Negro plumber in the area, the other sponsors would necessarily be white. The Negro reported that he hopes he can persuade two white contractors to vouch for his apprentices.

In the electrical field, members of minority groups residing in Alabama also face substantial obstacles—first, in obtaining the necessary training and experience, and secondly, in securing their licenses. Union-sponsored apprenticeship programs appear to be closed to minority group members, even though an official of the electrical union (Local 136) in Birmingham stated that the union accepts about 35 apprentices each year "strictly on the basis of their test scores." All applicants must be high school graduates and no high school equivalency certificates are acceptable. The final selection is determined on the basis of an interview. Applicants who are not admitted to the apprenticeship program may attempt to gain experience by working for non-union contractors. The experience gained in this way is likely to be limited to residential wiring and therefore not sufficiently comprehensive to prepare a person for the licensing examination. The local vocational school offers an electrical program but there are relatively few students enrolled. Evidently they are aware of the difficulties involved in becoming licensed and tend to elect an alternate program in industrial electricity and electronics. This program is so popular that it always has a long waiting list. Most graduates find employment in local industry where union membership is not a requirement.

In all sections of the country, minority group leaders reported that the problem lay not with discriminatory practices in licensing but rather with inequalities of opportunity with respect to obtaining the necessary training and experience by members of their group. The tight control of apprenticeship programs, especially in the electrical field and in various pipe trades, was most frequently cited as an obstacle. Discriminatory practices by unions in the selection of apprentices were alleged to be the major reason why so few members of minority groups are licensed in these fields. Even when vocational schools offer preparation in plumbing or electrical work, access to meaningful on-the-job experience is generally controlled by employers who accept only those who are sponsored by their union-management joint apprenticeship council. This practice has tended to exclude minority groups from high-rise construction projects. Those who are able to obtain employment with nonunion contractors are generally restricted to residential work or to working on small buildings, a situation which limits their opportunities for learning modern construction technology.

When queried about the exclusion of minority group members from their apprenticeship programs, union officials were frequently quite defensive. They would justify the existing selection procedures as fair and objective and quickly point out that changing technology had drastically reduced the need for skilled craftsmen and for apprentices.

In nearly every city visited outside of the deep South, union officials described efforts to recruit minority group members into their apprenticeship programs. The business manager of a plumbers and gas fitters union in Los Angeles stated that in the preceding year 173 applications had been received for the 10 vacancies in his union's apprenticeship program. Almost 60 percent of these had come from minority group members. On the day of the test, 43 individuals appeared; of these, only 10 were from minority groups. Two were Negro; two, Oriental; and six, Mexican-American. One of the Orientals ranked ninth on the examination and was offered an opportunity to enroll in the program. However, he declined. He said that he planned to go to college and had taken the test only because he had been "asked" to do so. Similar instances were frequently cited to illustrate how hard it is to motivate minority youngsters to seek admittance to apprenticeship programs and to sustain their motivation.

Initially, the authors were somewhat skeptical about stories which suggested that qualified minority group members were not really interested in participating in apprenticeship programs even when the opportunities were made available. However, Urban League officials in several large cities acknowledged that there was indeed a high attrition rate among black applicants to apprenticeship programs. In Chicago, the director of the training for the Chicago Urban League described the supportive services of Project 110 which were being operated by the Urban League under a federal grant. The program involved 110 Negroes who were given tutorial help, counseling, and necessary follow-up activities to prepare them for apprenticeship examinations. It provided financial aid for physical examinations, initiation fees, and dues. Every effort was made to see that the young men enrolled became committed to a given trade and to develop a "success orientation." No one was eliminated from the program. The Urban League continued to provide support as long as the individual remained in the program or until he failed the test and gave up.

Despite the concerted effort expended, the director of Project 110 said that his staff had had difficulty producing candidates when opportunities materialized. There was frequently a lag of several months between the time an application was filed and the date of the test. Sometimes staff members were unable to locate a candidate in order to have him take the examination.

The unions also report that on many occasions, after an applicant is notified to come in for a test, he does not appear. The unions apparently fail to realize that ghetto youngsters move frequently and that the address put on an application form may be obsolete. Sometimes an applicant will not open a letter if he thinks it might be a bill. The director of Project 110 said that applicants frequently do not even open their mail from the Urban League! Part of the Urban League's job is keeping track of applicants. In order to do so, they often work through contacts with the applicant's best friend, girl friend, or mother. Unfortunately, some applicants who do manage to qualify appear to be shortsighted. They may be working on a job that pays slightly more than the beginning rate for an apprentice but which is a dead-end job. They turn down the opportunity to enter an apprenticeship program because they are unwilling to accept a cut in pay. They refuse to give up their short-term benefit for the higher wages they could earn after successfully completing the apprenticeship program.

An Urban League official expressed the somewhat cynical view that licensing was not a serious problem for minority group members in Chicago because, as he put it, "If a person is satisfied to work in the ghetto, nobody will bother him." He pointed out that organized labor concentrates almost exclusively on commercial buildings and on large public buildings. Blacks are excluded on such projects because they do not hold union cards. However, should they know even the rudiments of plumbing or electrical work, they can keep very busy on ghetto jobs. Working there, they can get by without belonging to any union and without being licensed. They seldom bother to obtain construction permits, which means that their work is seldom inspected. Although the Urban League official did not condone this situation, he seemed resigned to its existence.

In a number of large cities, a major obstacle to being licensed as a master electrician is the requirement that the applicant must have worked for a specified number of years as a journeyman under licensed contractors. One black contractor who was interviewed said that when he endeavored to collect affidavits from former employers in order to qualify for his master electrician's license, he discovered that a contractor for whom he had worked for 5 years was not licensed; hence, this period could not be used toward satisfying the 10-year experience requirement. Another contractor, however, agreed to certify that the Negro applicant had been working for him during that 5-year period. On the basis of this false affidavit, the applicant was allowed to take the examination. He passed the test and obtained his license. He was frank to admit that "Whenever someone else needs an affidavit to cover some journeyman time, I am glad to help him out."

In some localities, an applicant for a contractor's license must post a bond to demonstrate his financial integrity. Minority group members report that they have difficulty in obtaining such bonds unless another contractor will vouch for them. Groups of minority contractors have recently joined together to provide mutual assistance for those unable to meet bonding requirements. New York City now has an official agency to aid minority contractors with a variety of problems, including scheduling and estimating as well as bonding.

One factor that is frequently overlooked in assessing the reasons for the paucity of their representation in the construction trades is the tendency of minority group members to become easily discouraged. Some are apparently afraid to try the examinations; others give up after they fail on their first attempt.

When the sole black building contractor in Clearwater, Florida was asked how he had obtained his license, he replied that he owed it all to the building inspecter there. The contractor had taken the licensing test several years earlier and had failed. He said he was thoroughly discouraged and had no intention of trying again. Then the building inspector, a white man, called him and invited him to come in to go over his test paper. The inspector explained that practically everyone fails the test the first time, but that eventually most manage to pass, providing they keep at it. The black applicant decided to do additional studying and to try again. The second time he did better but still failed to earn the passing score. Again the building inspector advised the man where he was weak and urged him to try again. He passed on his third attempt and has been a successful small contractor ever since. He said very ernestly, "I try to explain to people that they should keep trying as I did, but everybody wants quick success."

Unfortunately, the foregoing anecdote is not typical. Only a few instances where anyone involved with occupational licensing went out of his way to assist or to encourage minority group members to obtain their licenses were encountered. In general, boards seem to adopt what they claim is an even-handed approach of treating everyone alike. In many instances, this has the effect of putting a minority group member at a disadvantage. This is especially evident in the case of Spanish-speaking minority groups when examinations are given in English. Most boards make no concessions to applicants who are otherwise qualified, but who lack the facility in English necessary to take a licensing examination. However, some boards do endeavor to accommodate people with language problems. In Texas the state plumbing board has a Spanish-speaking examiner to assist applicants during the practical examination. Some boards will administer the examination orally through an interpreter. Others will permit an interpreter, who must not himself be a building trades craftsman, to translate the questions and then write down the applicant's replies in English.

Most board officials who were interviewed showed little inclination to make concessions to applicants who do not have an effective command of English. Most officials claimed that the ability to read, write, and understand English is a necessary prerequisite to being licensed; without this, the public interest would not be protected. Yet these same officials would frequently relate anecdotes of highly skilled craftsmen who simply could not pass a written test and were examined orally by the chief inspector or a board member. Such anecdotes may be interpreted as evidence that licensing board officials occasionally exhibit compassion for the individual with a language problem; but they also suggest that a double standard exists under which certain individuals with language handicaps are examined orally and are granted licenses, while others are not given this opportunity.

Vocational educators and minority group representatives were asked whether they felt that the tests were too difficult for minority applicants. Almost without exception, the reply was negative. Minority group educators and minority group employers who might have been critical of the examinations on the grounds of relevance were nevertheless adamantly opposed to the lowering of standards for the licensing examinations in order to enable more Negroes, Puerto Ricans, and Mexican-Americans to become licensed. Most felt that, if anything, standards should be raised and the quality of the examinations improved to reflect more accurately the knowledge and skills required to do a job. In a sense, these respondents felt that they had "made it" without special help or watering-down of examination requirements and they felt that others should be able to do likewise. Many deplored the lack of adequate training opportunities for minority group members, but they also deplored what they perceived as a lack of character in some minority group youngsters who were unwilling to undertake the rigorous training required. Several respondents said that too many of today's youth, especially those from minority backgrounds, wanted to have the license handed to them on a silver platter, without any effort or sacrifice on their part.

Considerable evidence was turned up to indicate that minority group contractors are seeking to establish better communication and a basis for cooperation so that they might eventually bid on larger construction projects. In the Oakland, California area, the impetus for such cooperation had been provided by a $300,000 grant from the Ford Foundation to establish a General and Specialty Contractors Association (GSCA). Sixty-three minority contractors had agreed to participate; 17 were general contractors and the remainder, specialty contractors. Among them were Negroes, Mexican-Americans, and Orientals. A 4-man professional staff, headed by a civil engineer with 20 years of construction experience, was recruited to provide guidance and technical assistance to the minority contractors.

The idea for GSCA had evolved as those seeking to assist minority contractors began to realize that antidiscrimination laws, compliance with equal opportunity regulations, and good intentions could not, in and of themselves, open the way for minority contractors to participate in major construction projects.

There are practical roadblocks which prevent the small minority contractor from raising his sights. Most have found it impossible to follow the traditional route of moving from small to progressively larger construction jobs. They lack the experience, the capital, and the bonding capacity required to compete effectively.

The management know-how provided by the GSCA staff is intended to assist members to prepare sound cost estimates, develop realistic schedules, obtain funding, and secure the necessary bonds. Participating contractors are required to surrender a good deal of their autonomy, but it was felt that this is the only way for the contractors to gain experience with a minimum risk of financial failure.

The GSCA has also been concerned about opening training opportunities for minority members but, in this area, it faces a serious dilemma. Few minority contractors are involved in major construction projects; hence, trainees working for them would have little or no opportunity to acquire the knowledge and skills that typify the graduate of regular apprenticeship programs.

Working with the United States Department of Labor, the Ford Foundation, the Building and Construction Trade Council of Alameda County, and the various labor unions, GSCA organized an apprenticeship program for trainees with some experience in the construction trades. These trainees are supposed to be at least half as productive as journeymen. Among the trades included in the program are operating engineers, sheet metal workers, plumbers, pipe fitters, electricians, and bricklayers. The unions have agreed to admit graduates of the program as journeymen.

The effort under way in the Oakland area is probably larger, better organized, and better financed than similar programs in other localities. It illustrates what can be done to overcome at least some of the barriers which have prevented minority group members from obtaining initial training and experience that would qualify them to participate more fully in the economic life of the nation.

Reference has already been made to the efforts of the Urban League in Chicago to provide guidance and support to minority group members who were seeking entry into construction trades apprenticeship programs. Similar programs were encountered in other communities under the auspices of such groups as the Workers Defense League, the Urban League, and the National Association for the Advancement of Colored People. The financial support for these programs often comes from the United States Department of Labor and is sometimes supplemented by foundation grants. In Chicago there is an Apprenticeship Information Center funded by the United States Department of Labor in one of the major department stores. This agency is primarily a clearinghouse where interested individuals can learn about the requirements for various types of apprenticeship programs, including information as to where to apply and when tests are given.

The projects sponsored by the Workers Defense League and the Urban League, both funded by the Manpower Administration, United States Department of Labor, tend to go beyond merely providing information. They have an activist orientation which includes recruiting qualified applicants, getting them registered for screening examinations, coaching them in test-taking and interview techniques, and seeing that they actually appear at critical points in the selection cycle.

No effort was made to study support programs of the kind described in a systematic way or to assess the results. Despite an enormous amount of effort expended, the program seems to be having relatively little impact on the major construction crafts. In city after city which was studied, directors of support projects told of the frustration they had experienced. When they had promising applicants, they encountered difficulties in getting cooperation from the unions. When unions agreed to cooperate, qualified applicants proved hard to find. When success was finally achieved in enrolling a minority group member in an apprenticeship program, the odds were high that he would drop out before completing it. In

Oklahoma City, the director of a program provided the following data regarding his success to date:

Program	Results
Sheet metal workers	9 admitted; all had dropped out
Brick layers	7 admitted; 3 had dropped out
Carpenters	8 admitted; 5 had dropped out
Electricians	2 admitted; 1 left to enter college
Plumbers	5 admitted; 2 were still in the program
Roofers	45 admitted; about half had dropped out

The Oklahoma City official recounted an unfortunate experience he had had with the brick masons' union. The program had recruited 14 men for what everyone understood was to be a regular apprentice program with pay starting at $2.91 an hour. However, the industry people converted it into an MDTA-type(Manpower Development Training Act) program under which trainees received a training allowance of only $30 a week. Instead of being spent working at a brick mason's craft, the first six weeks were spent attending basic education classes. The trainees rebelled and refused to continue. They felt that the program had been misrepresented to them. Most had family responsibilities and needed a higher income.

Incidents such as the one just recounted have tended to reinforce suspicions of minority group members as to the sincerity of those who are urging them to seek training in fields from which they have traditionally been excluded. Those who do manage to survive the apprenticeship period report no difficulty with the licensing examinations. Such individuals characteristically report that the training programs are so rigorous, and the examinations given by their own instructors so comprehensive, that it is often possible for them to pass the licensing examinations a year or more before they actually complete their apprenticeship programs.

Those who have pursued a formal apprenticeship program seem to be much more likely to be granted a license on the first attempt than those seeking licensure on the basis of other types of training. While many licensing board officials acknowledge that there is a disparity between the pass-fail rates of those who obtain their training in apprenticeship programs and those who do not, they point out that applicants who do not have the benefit of an apprenticeship program often receive only limited types of experience. Such applicants may receive all of their experience on residential construction and consequently, they lack an understanding of problems related to high-rise construction. Most board officials feel that it is not their responsibility to provide training or to supervise what takes place in training programs. Their only responsibility is to determine whether a person is competent. Denial of access to training is, according to them, a social problem and not a licensing matter.

A number of minority group contractors reported that although they had succeeded in obtaining their licenses, they were frequently harassed by overly zealous building inspectors who often rejected their work on technicalities and thus caused them to lose money on jobs. Interestingly, similar accusations were heard in some southern communities, not from black contractors, but from union contractors, who maintained that the licensing boards and the building inspectors were hostile to unions and used inspections as harassment technique. There is no ready way of verifying such accusations, but their persistent recurrence suggests that inspection practices may indeed be a weapon used by an in-group to harass and possibly even destroy unwelcome outsiders.

WHAT CAN BE DONE TO IMPROVE THE SITUATION?

As long as licensing standards and procedures for evaluating competence continue to be matters for determination by state and local licensing agencies, and as long as these groups can continue to manipulate standards and procedures in order to control the labor supply, there is not likely to be any great improvement in the chaotic situation which has been described. There would seem to be little hope that those who presently control the machinery of licensing can be persuaded to act in a voluntary fashion to bring about needed change; nor is there much room for optimism that many state legislatures or city councils would be willing to incur the wrath of powerful labor unions or affluent trade associations whose members derive economic benefits from perpetuation of the status quo.

If narrow parochial interest is to be surmounted, leadership at the national level must be sought to break the impasse. Such leadership might conceivably come from union or trade association people, but there is little in recent history to hold out much hope from this direction. The federal government may eventually be forced to intervene, as it has so often in the past, when the private sector of the economy has failed to meet its social responsibilities.

In seeking to improve licensing of various skilled occupations, a necessary first step would be the determination of reasonable standards of performance. Such standards are a prerequisite for any sound training program and are equally indispensible to the assessment of competence. Systematic studies are needed to establish what knowledge levels and levels of skill are required in order to insure minimally safe performance on the part of craftsmen. Such studies would serve to establish a basis for developing relevant training objectives and for designing training programs that would enable those wishing to enter the occupation to do so in an effective and efficient way. Vocational educators would have well defined goals to guide them, and learning experiences could be created and developed in such a way that trainees would be able to progress at their own pace toward the goals rather than being held to the kind of regimented lockstep that prevails in so many training programs.

There would seem to be a need for better ways to assess competence so that instructors and learners can accurately gauge their progress; and so that those responsible for judging an individual's readiness to function as a responsible practitioner may do so in a way that is both thorough and objective.

There is no reason why suitable assessment techniques cannot be devised. Once available, they would provide the necessary benchmarks against which competency could be judged. It would no longer be necessary to decree that an individual must have completed a program of a specified duration. A fixed number of years of training, so frequently called for in apprenticeship agreements, is an archaic concept that runs counter to everything psychologists have discovered about individual differences. It is well established that some people learn more rapidly than others.

Rapid learners may derive all the benefit they are likely to be able to acquire from a training program in a few years; others may require twice as long or even longer. Society can ill afford the luxury of having learners spend any longer than is necessary in a trainee status. Everything possible should be done to see that an individual takes his rightful place as a productive member of the labor force as soon as he is ready to do so. This can be ascertained more effectively by appropriate assessment techniques than by consulting the calendar.

Another argument for evaluating competence and granting journeyman status on some basis other than completion of a formal training program is that increasingly, society is recognizing that people acquire job-related knowledge and skills outside of formal programs. Many men receive training in the military service; others learn on the job; still others seek to advance themselves through self-study. Licensing and certification programs have been slow to recognize the diversity of approaches through which individuals may acquire job skills. In their preoccupation with those programs that they know best—or which they oversee—licensing boards have frequently declared ineligible those individuals who acquired their skills through some unorthodox route.

The existence of nationally developed evaluation procedures based on up-to-date job studies would facilitate the efficient use of our manpower resources and at the same time would open the door to many of those who are presently excluded from full participation in the economic life of the nation. Such evaluation procedures would serve a dual function. They could help an individual to diagnose his areas of weakness in order to guide his future learning. They could also provide a basis for judging his overall competence and his readiness to assume the responsibility of a journeyman, regardless of how or where he acquired his skills or how long it look him to attain them.

In the summary chapter, entitled "Strategies for Change," a proposal is made that the United States Department of Labor establish guidelines for training in the various construction trades, specifying in behavioral terms the necessary levels of knowledge and skill required for entry-level performance. It is also suggested that the department explore the feasibility of creating a national licensing program for skilled workers in the construction trades. The implementation of either or both of these recommendations should have a constructive impact on training programs as well as on licensing practices in the United States.

CHAPTER IV

LICENSING IN SERVICE OCCUPATIONS

Employment in service occupations has shown tremendous growth in recent years. While some of the growth is attributable to an increase in population, most of it is probably due to profound social and technological changes. The impact of technology is felt in every home, where gadgets and machines have become part of everyday living. Both men and women are spending more money on services related to personal grooming. The shortened work week has left people with more time for recreation and given rise to service industries which cater to a variety of recreational needs. Although service occupations are burgeoning, the major focus of this chapter will be on barbers and cosmetologists, both of which are licensed in almost every state.

WHAT IS LICENSED AND WHERE?

Barbering: The impetus for the licensing of barbers appears to have centered around the necessity of insuring sanitary conditions in barber shops. The earliest licensing law in the United States for this occupation was enacted by the state of Oregon in 1899. Dates of licensing laws covering barbering in the states studied are: Illinois, 1909; Georgia, 1914;

California, 1927; Arizona, 1928; Texas, 1929; Florida and Oklahoma, 1931; Ohio, 1933; Michigan and New York, 1946.

At the present time, every state except Alabama has a licensing law for barbers. The legislation generally covers one or more categories, including barber colleges and instructors. Licensing in Alabama, on the other hand, is handled on a county basis. The counties in which the state's largest cities—Birmingham, Montgomery, and Huntsville—are located do license barbers so that the bulk of the state's population is served by licensed operators. However, in 59 counties, mainly in rural areas, there are no laws regulating the practice of barbering. Anyone may offer barber services here, including those who may have had their licenses revoked in other states.

Opposition to statewide licensing in Alabama is attributed to a number of factors, principally of a political nature. Influential officials who serve on county licensing commissions would lose their jobs if a statewide licensing law were passed. Unlicensed barbers anticipate that if a state law were passed, their shops would be required to meet state sanitary standards and they would have to pass physical examinations. They are apparently not eager for either eventuality. The two groups, interviewers were told, have thus far been able to block efforts to achieve statewide licensing. Moreover, since the most populous counties do have licensing laws, there has been little reason for the public to see a need for an organized effort in behalf of statewide legislation.

Cosmetology: The rationale for licensing cosmetologists is also based on the need for sanitary conditions as well as on the fact that cosmetologists use a variety of potentially harmful chemicals in their work. Historically, friction centering on the economic question of who shall cut women's hair has always existed between barbers and cosmetologists. The issue was finally resolved by enacting separate licensing laws which specified just what services each occupation could perform. The enactment of cosmetology laws parallels closely the enactment of legislation for barbers. In five of the eleven states surveyed—Arizona, California, Georgia, New York, and Ohio—the laws covering both occupations were passed during the same year. In the other states, legislation related to cosmetology followed within a few years after barber laws had been passed. A notable exception, in addition to the Alabama situation, is Illinois, which began to license barbers in 1909 but did not license cosmetologists until 1925.

While most licensing of cosmetology is handled at the state level, one interesting exception was noted. In Alabama, cosmetologists in Jefferson County, which includes Birmingham, were found to be exempt from the state law. This exemption was made because at the time the statewide law was enacted in 1957, Jefferson County already had its own licensing board, in accordance with a law that had been in effect since 1931. To avoid political complications, cosmetologists in Jefferson County were left under the jurisdiction of the county board while elsewhere in Alabama they are regulated by the state board.

In addition to regulating the practice of cosmetology, most states also license shop owners, schools of beauty culture, and instructors in beauty schools. Many states also license such related occupations as manicurist, pedicurist, and electrologist.

Other Service Occupations: Exterminators and pest control operators are licensed in seven of the eleven states surveyed—Arizona, California, Florida, Georgia, Illinois, Michigan, and Oklahoma. Several cities, including Chicago and Cincinnati, require pest controllers to be licensed under local ordinances.

Individual municipalities license a number of occupations related to electrical appliances. Tulsa licenses the following:

> Mechanical appliance servicemen - repairers of gas ranges, small air conditioners, and electric and gas freezers.
>
> Electrical appliance repairmen - repairers of small electrical appliances, including radio and television sets.
>
> Mobile home servicemen - repairers of heating and cooling equipment in mobile homes.
>
> Electrical motor servicemen - repairers of motors, generators, and transformers.

While no attempt was made to probe in depth the many occupations licensed at the local level, it became evident that there is little consistency from one locality to another. It would appear that the decision to license a service occupation depends on the initiative and perseverance of those involved in the occupation. In those communities where a variety of service occupations are licensed it is quite likely that the initiative came, not from an outraged public seeking protection from abuse, but from practitioners of the occupation who sought to persuade a legislative body that the public might be harmed should unlicensed individuals be allowed to practice.

Since barbering and cosmetology are the licensed service occupations which include the greatest number of workers, these are the only ones that have been studied in depth. However, a variety of other service occupations in addition to those already mentioned are licensed. Funeral directors are licensed in 44 states, embalmers in 47, insurance brokers and agents in 45, real estate brokers and salesmen in 46, and watchmakers in 13. For a detailed listing of occupations licensed at the state level, readers can refer to Licensing in the States, published by the Council of State Governments in 1968. [23]

WHO DOES THE LICENSING?

The boards which regulate barbering and cosmetology are generally made up of licensed practitioners who have had at least five years of experience in the trade. Board members are usually appointed by the governor or by the head of the licensing agency functioning on behalf of the governor. They are usually selected from nominations submitted by the major trade associations or unions in each occupation, although governors will sometimes go outside such lists to appoint personal friends to the boards. Of the eleven states surveyed, only New York does not have appointive boards to oversee the licensing of cosmetologists and barbers. In New York, such licensing is handled entirely by civil service personnel in the office of the Secretary of State. Although the secretary appoints practicing barbers and cosmetologists to serve on advisory boards, such boards play no official role in the licensing process.

Barbering: Considerable similarity was found between barber boards and cosmetology boards in the states surveyed. Appointments are usually made by the governor from a slate of nominees submitted by the barber unions and the shop owners' associations within the state.

The law in most states requires that the board include representatives of both employers (shop owners) and journeymen. The number may vary from 3 in Texas, Michigan, and Ohio to as many as 6 in California or 7 in Florida. The law may specify that the board include a medical doctor representing the state health department, as in Oklahoma, or a sanitary engineer, as in Florida. The board in California includes two public representatives.

Most board members serve on a per diem basis. They meet between 15 and 20 times a year and are paid a specified amount plus travel expenses for each meeting attended. Three of the four barbers on the California board are full-time salaried employees who serve as examiners. The others, the two public representatives and one licensed barber, serve on a per diem basis.

The functions performed by barber boards are similar to those carried out by other licensing agencies. In some states, however, the barber board also has responsibility for establishing minimum prices. The rationale advanced for this practice is that the barber shops are necessary for the public health and safety and barbers must be insured a decent income or they will go out of business, leaving the public without an adequate number of barber shops. This highly tenuous line of reasoning is used to justify the use of licensing boards to influence the economics of the trade. It would seem logical that if an argument of this kind can be supported in the case of barbers, it can be used with equal force to set minimum prices in almost any regulated industry.

Barber boards control the training of barbers. They specify in great detail the curriculum, the duration of training, and the qualifications of instructors. In a number of states the barber board has seen fit to limit the number of schools, thereby giving certain schools a virtual monopoly over training. In other states, such as New Jersey, the board has prohibited the establishment of any barber schools within the state. This forces all barbers to obtain their training via apprenticeship or at out-of-state schools.

Cosmetology: Boards for cosmetology vary in size and composition. Those functioning in Arizona, Texas, Michigan, and Ohio consist of 3 members; those in Illinois, Florida, and Georgia have 5; the Alabama board has 7; California and Oklahoma have 8. The term of office tends to be 3 years. In several states board members may be removed by the governor.

Legislators who drew up licensing laws appear to have been highly sensitive to potential conflicts of interest among cosmetology board members. Several states specifically exclude from membership on the board anyone who has a financial interest in or is associated with a school of beauty culture. Others limit the number of school owners who may serve. The states of California and Illinois have barred from board membership anyone connected with the manufacture or wholesale distribution of beauty supplies or equipment. Oklahoma excludes not only those affiliated with beauty schools but also anyone who holds office in a trade association. The law in Texas excludes both shop owners and school owners. At the time of the survey, the board in Texas consisted of two cosmetology instructors and one beauty operator.

Cosmetology boards appear to be dominated by representatives of the regulated occupation. In California there are two public members on the board. In Ohio the law stipulates that one board member must be a physician from the state department of health. At least two states, Alabama and Florida, have attempted to insure some geographical spread among their board members. The Alabama law states that no two board members may come from the same congressional district. Florida law stipulates that there must be one board member from each congressional district to insure that board members will be accessible to applicants or practitioners who may have problems.

In most states, board members serve on a part-time basis and receive a per diem of about $25 plus travel expenses when attending meetings or participating in the administration and scoring of examinations. Meetings are held at varying intervals, as often as once a month in some states to as few as four times a year in others. In addition to the required meetings, many boards hold special meetings. Some states specify a maximum number of days for which a board member may be compensated.

WHAT DOES IT TAKE TO BE LICENSED?

In order to be licensed as a cosmetologist or barber, an applicant must usually satisfy a number of statutory requirements covering such matters as age, education, citizenship, literacy in English, residence, health, and good moral character. In addition, the applicant must have completed a training program or have served an apprenticeship—each of a specified duration. Only after these requirements are met is an individual permitted to take the licensing examination.

Age: Most states require applicants be 18 or 19 before they may be licensed as barbers, although New York State will license a 17-year-old. Some states specify a minimum age that an individual must have attained before beginning training. California states that an apprentice must be at least 17 1/2 years old.

Several states, including Alabama, Illinois, Ohio, Oklahoma, and Texas, stipulate that an applicant for a cosmetologist's license must be at least 16 years of age. Florida and Michigan set the minimum age at 17, while Arizona, California, and Georgia have an 18-year minimum age requirement.

Education: There is considerable variation in the minimum educational requirements needed to establish eligibility for licensing as a barber. Texas requires at least a seventh-grade education to become an assistant barber; New York and Alabama specify an eighth-grade education; California requires completion of ninth grade; and Illinois and Florida stipulate a tenth-grade education. The county licensing commissioners in Alabama do not specify any minimum educational level.

Texas requires only a seventh-grade education of an applicant for a cosmetologist's license; Illinois, Ohio, New York, and Oklahoma specify eighth grade; Michigan and Georgia stipulate ninth grade; Alabama, Arizona, and California require completion of the tenth grade; Florida requires high school graduation if one is under eighteen but will permit those over eighteen to take the examination if they have completed the tenth grade. In each instance, boards will accept evidence of "equivalent" education, although the basis for determining equivalency is seldom specified.

One would assume from surveying the educational requirements that most states see little relationship between formal education and the ability to perform the duties of a barber or a cosmetologist. Although some educators have urged that high school graduation be made a requirement—presumably to encourage students to finish high school—legislators apparently feel that occupations like barbering and cosmetology do not call for a high degree of formal education. Proprietors of cosmetology schools and barber colleges are strong advocates of low rather than high educational requirements because both occupations have a strong appeal to dropouts.

Citizenship: There does not appear to be any clear-cut pattern with respect to the United States citizenship requirement for potential barbers and cosmetologists. In a number of states the law is silent on the subject, but this does not prevent certain licensing boards from using citizenship as a licensing requirement. In Ohio the barber board not only asks if an applicant is a citizen but also whether he voted in the last election. The Ohio cosmetology board follows a similar pattern. Although the law does not require citizenship, the board asks applicants if they are citizens or if they have declared their intention of becoming citizens. If the answer is "yes" to the latter question, an applicant must indicate the date and place where the declaration was filed. Oklahoma's barbering and cosmetology boards also ask about citizenship on the application form, although the law does not stipulate it as a requirement for licensing in either occupation.

There are some interesting inconsistencies to be noted regarding the citizenship requirement within a given state. Texas requires citizenship for barbers but not for cosmetologists; in Florida, citizenship is required for cosmetologists but not for barbers. As far as could be ascertained, Alabama, California, Georgia, Michigan, and New York do not require United States citizenship.

It is difficult to establish a convincing rationale to cover a citizenship requirement for licensure. A frequent comment of those interviewed was, "If he is going to work here, he ought to be a citizen." It would seem most unjust, however, to allow immigrants to enter the country and then not permit them to earn a livelihood in an occupation for which they were trained until they became citizens or declared their intention of doing so.

Literacy in English: While a number of states specify that applicants for licensure must be literate in English, it is more common to make the requirement a de facto condition by giving the test only in English and by making no provision for translating the written text into another language or for using an interpreter. Differences in attitudes among licensing boards in the various states are sometimes startling. New York, with a large Spanish-speaking population, administers its barber and cosmetology examinations only in English and does not permit interpreters. Arizona and Texas, which also have a substantial number of Spanish-speaking applicants, have a similar practice. By contrast, Florida, which has many

Cuban refugees, seeks to accommodate those who cannot read, write, or speak English. The Florida barber board will translate its written examination into Spanish for an extra fee of $35 and into many other languages for $40. The Florida cosmetology board permits applicants to bring an interpreter to the examination as long as he or she is not a cosmetologist. Oklahoma, California, Ohio, and Michigan are among the states which permit applicants to use interpreters when taking a licensing examination.

States which permit the use of interpreters or which provide translations of examinations seem to feel that applicants who require such assistance would render useful services in their communities. In places where the boards showed no inclination to make concessions on this point, officials claimed that the ability to read and write English was a legitimate prerequisite to being licensed and was necessary to protect the public interest. Although the courts in New York State have ruled that individuals who can read and write Spanish satisfy the literacy requirement for voting, this ruling has not influenced the agencies which administer the state's licensing laws.

The matter of literacy raises the question of a possible double standard in the administration of licensing examinations. Those who state that they do not read or write English are often allowed to bring an interpreter, while others who profess a knowledge of English are on their own. Those in the latter group may in fact be severely penalized by reading handicaps and may fail the examination because of their inability to understand questions or to express themselves correctly rather than because of a lack of knowledge of the subject matter involved.

Good Moral Character: With the exception of Texas, all states included in the survey required applicants for licensure as barbers or cosmetologists to have good moral character. The definition of this requirement is not precise. Some states, such as Oklahoma, specify that if a barber applicant has been convicted of a felony, he must make a full disclosure to the board which will then make a decision on the basis of the evidence and on the applicant's attitude. California's barber board is concerned only with offenses involving drugs or crimes of moral turpitude. Before 1968, officials in California accepted at face value negative replies to the question of possession of a criminal record. However, spot checks revealed that approximately 20 percent of those who disclaimed any criminal record did, in fact, have some kind of record that might have disqualified them. Subsequently, fingerprinting was instituted as a requirement for admission to the testing center. The percentage of those who claimed no record, but who were later found to have one dropped to about two percent.

The Florida cosmetology board requires applicants to disclose conviction for any offense more serious than a traffic violation. According to its executive officer, the Florida barber board found that it could not rely on voluntary disclosures. It therefore instituted fingerprinting and a routine check with the Federal Bureau of Investigation. This procedure turned up a large number of applicants with underworld criminal records. Applicants are now warned that failure to make full disclosure may be grounds for denial of a license. A greater number of voluntary disclosures are now elicited. Florida is continuing with its fingerprinting program.

Oklahoma checks applicants with the state crime bureau. While most other states indicate that good moral character is a prerequisite to licensure, they appear vague about the way in which this characteristic is ascertained. A few states request character references, but they admit that such references are seldom verified.

Barbering is currently being taught to inmates in many penal institutions, with the full approval of licensing boards. In Illinois the board even arranges to hold licensing examinations for inmates at Joliet Prison. One would assume that in this instance, at least, the board is fully cognizant of the candidate's criminal record and does not view it as a deterrent to licensure. However, if a person with a criminal record prepares for this occupation without prior clearance from the licensing board, he may find that his efforts are in vain; that he cannot pursue his work in barbering because he cannot get the necessary license.

On the surface, it would appear that the good moral character provision has been included in licensing laws in an effort to protect the public from undesirable individuals. However, the lack of adequate definitions and of precise guidelines and the lack of resources with which to conduct investigations challenge the wisdom of including this provision. The public is provided with at best a false sense of security by being led to believe that all license holders have undergone a thorough character check and have been cleared. Since investigations are often inadequate, it might be better to drop all pretense that licensing boards are monitoring the moral character of applicants. If boards are concerned about specific areas of conduct, such as child molesting, drug usage, and prostitution convictions, they should ask questions directly related to these particular areas rather than attempt to look into all indiscretions a person may have committed; most indiscretions have no bearing on a person's ability to provide the public with services in barbering or cosmetology.

Health: Virtually all states require barbers and cosmetologists to provide health certificates either from their own physicians or from the local health department. Many states are quite specific and call for a blood test for venereal disease and either an X-ray or a skin test for tuberculosis.

Some states require barbers and cosmetologists to provide evidence of good health annually; others require such evidence twice a year. This provision has led to friction between cosmetologists and nurses in Florida, since the former must submit health data twice a year, while the latter are only required to do so annually. Cosmetologists maintain that nurses are in constant contact with sick people; consequently, it would be logical that they submit to the more frequent health check-ups.

Training: Most state cosmetology licensing boards require applicants to have completed a specified number of hours of training in a board-approved school of beauty culture. The number of required hours varies widely. Oklahoma and Texas require only 1,000 class hours; Alabama, Michigan, and Florida stipulate 1,200 hours; Illinois, Georgia, and Ohio call for 1,600 hours; and Arizona specifies 1,800 hours!

The disparity between 1,000 hours and 1,800 hours of formal training is substantial. How do states with the higher requirements justify the difference? Does a higher requirement insure an operator's competency? Or is it a way to exclude newcomers from states with growing populations which may be considered highly desirable places to work? It would appear that a very high formal training requirement serves as an effective barrier to cosmetologists from other states and thus presents an effective barrier to mobility.

Several states permit applicants to qualify for licensing via the apprenticeship route. In Illinois an apprentice must work no less than 2,625 hours or 18 months. In Alabama and Michigan applicants may qualify after serving approximately 2 years as an apprentice to a qualified master cosmetologist.

Most state boards permit aspirant barbers to qualify through a formal training program in a board-approved barber college, through an apprenticeship program, or through a combination of the two routes. Arizona is one of the exceptions. It does not recognize training through the apprenticeship route.

As in cosmetology, the training requirements in barbering show wide fluctuations. New York State requires only 1,000 hours of instruction, while Michigan requires 2,000 hours plus a 2-year apprenticeship! Oklahoma will license a man after 1,200 hours in a barber college or after 18 months as an apprentice under a master barber. No credit is given for training received at an out-of-state barber college. Texas requires

1,200 hours for the Class A Barber (haircut and shave) but only 1,000 hours for the Class B Barber (haircut only). The Class B Barber is usually a cosmetologist who will also cut men's hair. Under the Texas law, candidates for the Class A or B licenses must work for 18 months as assistants before they are allowed to take the examination to become registered barbers.

In Illinois a candidate must spend 1,872 hours at a barber college before he can begin his apprenticeship. He must arrange to work for a registered barber before he is issued his license. Many of those who complete training and pass the test are unable to make such arrangements; they leave the field since they cannot obtain any sort of license. Those who do succeed in finding employment must work 2 1/4 years as apprentices before becoming eligible to take the examination for registered barber.

To become an apprentice barber in California, one needs about 1,250 hours of formal training. Before an apprentice may become a master barber, he needs at least 18 months of experience working under a master barber. Both the apprentice and the master barber must pass written and performance tests. To discourage barbers from remaining in the apprentice status indefinitely, the board requires all apprentices to take the examination for master barber within a 5-year period.

Florida has a system similar to that of California. Before a person may become an apprentice, he must have 1,500 hours of formal training. After 18 months, he may take another examination to qualify for a master barber's license.

Alabama, which has no statewide licensing, relies on the county barbers' commissions to set training requirements. Birmingham has no formal training requirements. Anyone can take the examination to be a licensed barber. The barber commission in Montgomery also has no specified requirements. Since there are no barber colleges in the area, applicants learn the trade via the apprenticeship route. Only in Madison County (the Huntsville area) does the board require applicants to be graduates of a reputable barber college.

In the ten states studied which have a state barber's law, only Georgia and New York do not require an apprenticeship examination. The apprenticeship period ranges from 6 months in Oklahoma to 27 months in Illinois. Arizona, California, Georgia, Florida, New York, Ohio, and Texas require 18 months. Michigan has a 24-month apprenticeship period.

HOW IS COMPETENCY TESTED?

Cosmetology: Each state covered in the survey required applicants for licensure to pass a written test and a practical test. Several states also graded students on the oral questions that were asked during the practical examination.

The written tests are generally of the true-false or multiple-choice variety, although several states continue to use questions which require the applicant to fill in blanks or to write short answers. Many of the boards lean heavily on a book of questions entitled Cosmetologists' State Board Review published by Milady Publishing Company, which also publishes the most widely used textbook in the field. These review books are essentially compilations of questions covering in minute detail material presented in the textbook published by the same company. The questions tend to emphasize minutiae and to encourage memorization of a great deal of material that appears to have little relevance to an individual's competency. By using questions from such books, boards probably play unwittingly into the hands of the publisher. It is apparent that this practice encourages schools to devote a great deal of time to drilling students on trivial details that they are likely to encounter in examinations based on the review book. This practice is highly questionable from an educational standpoint, since it channels the energies of students and instructors into a type of learning which does not appear to be worthwhile.

Some boards reported that their questions are written by the board members or by personnel of the agency staff. California's questions are developed by board members with the assistance of a testing consultant on the staff of the state licensing agency.

In New York State, which has no licensing board per se, the questions are written by an examiner on the staff of the Secretary of State, whose department is responsible for licensing cosmetology.

While project investigators did not have an opportunity to examine written tests in each of the states visited, the general impression gained from those which were reviewed was that test items, judged by professional testing standards, tend to be of poor quality. In very few instances was there any indication that those responsible for preparing examinations had any training in the art of writing questions. Few boards make any effort to analyze their questions to ascertain what percentage of the applicants answer each question correctly or to determine whether questions are able to differentiate successfully between high-and low-scoring candidates.

The number of questions used on written tests for cosmetologists varies considerably from state to state. In Texas, the test consists of only 25 questions—all taken from the Milady review book. The Ohio examination has 249 items on cosmetology and 51 dealing with sanitation. The majority of states covered in the survey use tests with 100 to 125 questions. Florida's examination contains 200.

Examining boards typically allow applicants adequate time to answer the written questions—usually half a day. The remainder of the day is used for administration of the practical examination.

The practical examination in every state visited utilizes the job sample approach. Candidates are required to perform certain standard operations on a model. An examiner, usually a board member, is usually responsible for evaluating the performance of about five candidates. The group is instructed to proceed with a given operation, such as brushing, while the examiner observes and rates each applicant on his work. Candidates are then told to go on to the next operation. Some states permit candidates to work at their own pace while the examiner watches and asks questions.

Even when board members have done a reasonably good job of specifying the tasks to be performed, too frequently they fail to indicate in clear and unambiguous terms what constitutes minimally acceptable performance. In the absence of such written guidelines for the evaluation of performance, each judge has to develop his own rating standards. These will inevitably be based on his personal experiences and expectations. They may or may not coincide with those of other raters.

One cosmetology board simply lists ten factors on which applicants are to be rated but provides no explicit guidelines for making judgments. The examiners observe the applicants as they perform certain assigned tasks and grade them on a scale that can range from zero to one hundred. The rating card used in this state is reproduced below.

EXHIBIT A

BEAUTY CULTURE EXAMINATION RECORD
PRACTICAL:

Personal Hygiene ______
Public Hygiene ______
Personality ______
Facials ______
Scalp Massage & Conditioners ______
Hair Shaping (scissors only) ______
Shampooing ______
Hair Coloring ______
Cold Permanent Waving ______
Hairdressing ______
(fingerwaving & hairstyling) ______
TOTAL ______

Average ______

* * * * * * * * * * * * * * * * * * *

BRING: A model, one large towel, hair trimming scissors, sufficient combs, brushes, complete equipment for cold permanent wave (rods and end papers), hairnet, hair rollers, pincurl clips, shampoo (optional), wave set, creme rinse, and a fee of $2.00 for use of the school. WEAR A CLEAN WHITE UNIFORM, including white shoes.

In another state, the board has attempted to break down performance into tiny segments, each worth from 1 to 5 points. Some of the credits are based on direct observation; others on oral questioning of the applicant. Although 68 terms appear on the rating sheet, only one is defined and clarified. "Attention" means "ability to listen and follow instructions." However, no clue is provided as to what degree of attention is worth two points and what degree earns a lesser amount. The rating card used in this state is found on page 226. (Exhibit B)

Apart from the lack of definitions and standards on which to base judgments, the logic underlying the rating scheme shown is open to question. The applicant's "personality" (attention, attitude, voice, eyes, and expression) are judged to be worth as many credits as her skill in giving a permanent wave, shaping hair, giving a scalp treatment, or coloring hair. Similarly, wearing the proper uniform and shoes carries as much credit as the ability to make a proper hair analysis or a patch test when coloring hair. It would seem that somewhere along the line the board lost sight of the purpose of licensing and decided to give as much or more credit to relatively trivial items—

EXHIBIT B

PERSONAL HYGIENE	Req. Pts.	Score
Uniform	2	
Shoes	2	
Hair	1	
Breath	1	
Use of deodorant	1	
Hands	1	
Posture	1	
Makeup	1	
TOTAL		

PUBLIC HYGIENE	Req. Pts.	Score
Kit	1	
Combs & brushes	1	
Scissors	1	
Definition	1	
Practice	1	
Use of Antiseptic and Germicide	1	
Preparation of Wet Sanitation (% and time immersed)	4	
TOTAL		

PERSONALITY	Req. Pts.	Score
Attention (Ability to listen and follow instructions)	2	
Attitude	2	
Voice	2	
Eyes	2	
Expression	2	
TOTAL		

SHAMPOOING	Req. Pts.	Score
Draping	2	
Chemistry of water and soap	2	
Chemistry of rinses	2	
Manipulations	2	
Cleansing of wigs	2	
TOTAL		

FACIALS	Req. Pts.	Score
Draping	1	
Applying of creme	1	
Muscles & nerves	1	
Skin analysis	1	
Type of massage	1	
Benefits of massage	1	
Skin disorders	1	
Packs and masks	1	
Chemistry of cosmetics	1	
Safety measures of arch	1	
TOTAL		

SCALP TREATMENT	Req. Pts.	Score
Brushing	1	
Manipulations	1	
Muscles	1	
Nerves	1	
Hair analysis	1	
Scalp analysis	1	
Chemistry of conditioners	1	
Scalp disorders	1	
Hair disorders	1	
Tesla High Frequency	1	
TOTAL		

HAIR SHAPING (SCISSOR)	Req. Pts.	Score
Hair texture	2	
Strokes	2	
Safety measures	2	
Manipulation of comb and scissors	2	
Complete shaping	2	
TOTAL		

HAIR COLORING	Req. Pts.	Score
Hair analysis	2	
Patch test	2	
Classification of color	2	
Procedure for tint	2	
Procedure for bleach	2	
TOTAL		

PERMANENT WAVING	Req. Pts.	Score
Sectioning	2	
Selection of rods	1	
Selection of solution	1	
Wrapping	2	
Testing	1	
Chemical relaxing	1	
Chemistry	1	
Safety measures	1	
TOTAL		

HAIRDRESSING	Req. Pts.	Score
Finger wave	5	
Pin curls	2	
Rollers	1	
Selection of style	1	
Execution of hairdress	1	
TOTAL		

bearing little or no relationship to public health and safety——as to those which are really crucial.

The California Board of Cosmetology has attempted to overcome some of the difficulties just cited by developing rating sheets to guide examiners in evaluating each major procedure. On the rating sheet for cold waving, the examiner is required to observe how the patron is draped, how the hair is parted, how the curls are saturated, how they are wrapped, and finally, the extent to which sanitary procedures are observed. For each of these check points, the rater is told how much credit he may deduct if the applicant fails to perform according to the standard. On "saturation," for example, the applicant gets full credit if the curls are evenly satured ("the same amount of moisture on all curls"). She loses credit if they are too wet ("so they drip") or too dry. The rating sheet used in California is shown on page 228.

EXHIBIT C

Cosmetologist Rating Sheet

DATE: ____________________

POINT LOSS*		COLD WAVING	120 POINTS 90 PASSING					
		IDENTIFICATION NUMBERS						
MIN	MAX							
		1. Draping of Patron						
		a. Neck strip or towel keeps cape from touching skin at neck						
		b. Drape is snug around neck						
		c. Drape is over chair						
		2. Hair Partings are clean and even and correct size for curlers used						
		3. Saturation: Curls are evenly saturated with wave lotion: not too wet (so they drip), too dry or dry in spots. Same amount of moisture on all curls						
		4. Wrapping of and Placement of Curls						
		a. Size of curler used and amount of hair on curler is appropriate for area of head, shape of head, and growth, length, and texture of hair						
		b. Full length of hair strand is wound						
		c. Each curl is centered in section						
		d. Each curl firmly wound around rod, with no stretching. Hair is spread evenly around rod. Fastening device is firmly secured across top of rod. Each curl is firmly placed (not dangling). Bleached or tinted hair is wound more loosely						
		e. Ends of hair circumscribe rod properly. End papers, if used, are of value and do not bind hair at any point						
		5. Maintenance of Sanitation and Patron Protection						
		a. Drape kept in proper position through operation						
		b. Cotton strip properly applied and removed (if used)						
		c. Articles dropped on floor are resanitized if reused (and hands)						
		TOTAL POSSIBLE SCORE						
		MINUS PENALTY POINTS						
		CANDIDATE'S SCORE						

EXAMINER'S SIGNATURE: ____________________

*Minimum and maximum point values have been deleted.

In the states visited, few examples of performance rating in cosmetology that compared favorably with those used in California were found. There seemed to be a general lack of concern about the absence of standards. When the question was raised by investigators, the argument almost invariably involved citing the training procedures in use or the use of two or more judges to pass on borderline cases. While this approach is often cited as a technique to safeguard the applicant's rights from the harsh or arbitrary judgments of a single evaluator, no evidence was available as to how often the second evaluator agrees with the first and how often he differs. In practice, the percentage of reversals is likely to be small because the second person is not really making an independent judgment. As soon as he is invited to review a questionable applicant, a bias has been introduced. He knows that a colleague on the board has reservations about the applicant. He also knows that people seldom like to have their judgment contradicted. Thus, it is easier for the second judge to confirm the doubts of the first one than to take a contrary view. This behavior is likely to be reinforced by the knowledge that, at some time in the future, the first judge may be called upon to review a borderline case for judge number two. In such circumstances, there may develop a situation not unlike the unwritten code which deters physicians from contradicting one another in public or which gives a United States Senator the right to veto appointments in his state. In short, reviews of this type are probably performed more for the sake of appearance than to insure equitable evaluations.

As far as could be determined, few states have systematic programs for training raters. In most states, the performance ratings for cosmetology, barbering, and other occupations are made by board members after brief on-the-job training given by the chairman or another board member.

In California, the cosmetology examiners are all former cosmetology instructors selected on the basis of a competitive civil service examination. After thorough training, they work under close supervision. As a safeguard against error or arbitrary ratings, each applicant is independently evaluated on each procedure by at least two judges. When discrepancies occur, they are resolved in consultation with the chief examiner.

In New York State, according to the individual in charge of examinations for both cosmetologists and barbers, the raters are either cosmetology instructors drawn from public vocational schools or owners of cosmetology salons. Instructors from private beauty schools are not permitted to serve as examiners. New examiners are required to go through a one-year preparatory period before they are allowed to evaluate the performance of any candidates on their own. The fledgling evaluator must first go through an orientation period during which he observes the administration and scoring of examinations. This is followed by a period during which he accompanies an experienced examiner on his rounds and does practice evaluations. His judgments are then compared with those of his mentor and discussed. Later, the trainee grades candidates, but his work is always carefully reviewed by an experienced evaluator. Finally, after approximately a year of training, the new examiner is allowed to make evaluations independently and to participate in the training of beginners. Detailed records are kept of each examiner's ratings. If it appears that his grading is consistently either too hard or too easy, he is summoned for a discussion of the matter with a representative from the licensing agency. If his performance continues to be deviant, he may be subjected to further training or dropped from the roster of examiners.

The subjective nature of performance evaluations--especially where standards are conspicuously absent--leaves the door wide open for abuse. Together with employment interviews, performance tests are often mentioned as favorite techniques for discrimination, not only against minority groups but against anyone a licensing board may wish to exclude from the practice of an occupation. Curiously, relatively few complaints against the performance tests conducted by cosmetology boards or barber boards were heard by investigators in the course of this study. This is probably attributable to the fact that applicants generally experience less difficulty with performance tests than with written examinations.

While most states give both written and performance tests on the same day or on successive days, New York State requires a candidate to pass the performance test before a written test is scheduled. The practical examination for cosmetology is scheduled for the same day in 10 to 12 cities in the state. The examinations are generally given in schools of cosmetology. At a typical center there might be as many as 160 candidates, 160 models, and 16 examiners. This, it would seem, may create a rather serious traffic problem. The written test is given 12 times a year in the major cities throughout the state. In addition, 15 to 20 extra sessions are scheduled in New York City when it is necessary to accommodate an unusually heavy volume of candidates.

California handles the testing problem in another way. The state board of cosmetology maintains well-equipped testing centers in Los Angeles and San Francisco, where candidates may be tested on almost any business day. The tests are administered by the civil service examiners who work under the supervision of the executive secretary of the board.

Most cosmetology boards require applicants and their models to travel to a single location--usually the state capital--to be tested. Alabama, Arizona, Georgia, and Texas hold their examinations in their respective capitals approximately every month. Oklahoma and Ohio follow a similar pattern except for frequency. Oklahoma tests 6 times a year, while Ohio does so only 4 times each year. The cosmetology board in Florida conducts its tests monthly at a specialized testing facility located at Winter Haven.

The fact that applicants may incur substantial expense for travel, meals, and hotel costs in order to take an examination at a centralized facility is often justified on the grounds that better testing conditions are provided at such centers than would be found in the field. Unfortunately, this is not always true. In Oklahoma the performance test is administered to candidates in the ballroom of a downtown Oklahoma City hotel. The facilities are clearly makeshift and the lack of running water makes it impossible for candidates to give their models a shampoo or to carry out other operations that they would normally perform in a well-equipped beauty salon or school of cosmetology. It would appear that the decision to test in a central location may be made more as a matter of convenience for the board than out of any consideration for the candidates or to insure that the examination given will be of high quality.

Barbering: Most states require written and practical examinations of all applicants who seek licensure as apprentices or student barbers. New York State is an exception in that it does not require a written test but only a practical test. After a barber has worked several years, usually three, he is permitted to take an examination to become a registered barber. He may then open his own shop.

Most of the states covered by the survey that use written tests rely heavily on a 73-page booklet called Modern Barber State Board Exam Review published by Milady Publishing Company, which produces the most widely used textbook in this field, too. In some states, board members select the questions; in others, the executive secretary picks the items, which are then reviewed by the board. However, practice varies widely. The secretary of the barber board in Oklahoma reported that questions were usually chosen by a single board member and that none of the other members were involved. In several states, interviewers were told that the questions were written by the chairman, but upon further inquiry, it became evident that he was merely selecting questions from old examinations or from the Milady review book.

For a variety of reasons—not the least of which is ease of scoring—a number of boards have turned from the use of essay to multiple-choice questions. However, board members find that such items are difficult to write. Not only must each question be formulated in clear, unambiguous language, but a correct answer and three or more incorrect answers (distractors) must be provided.

The resulting tests have frequently turned out to be nothing more than the old completion-type questions with four possible answers supplied in the blank space for each question.

Below are a few such items taken from a barbering test:

Resistance to disease is known as
a) infection c) parasite
b) immunity d) fungus

A chemical agent which destroys bacteria is called:
a) a disinfectant c) a fungant
b) an antiseptic d) a sepsis

Osteology is the scientific study of
a) muscles c) veins
b) bones d) arteries

The number of questions used in a written examination for barbering varies considerably. In Texas only 25 questions are used; Florida uses 51 questions; Oklahoma, 100 questions; Illinois has 150 items for its apprentice barbers and 60 for its registered barbers. Most boards rely on true-false and multiple-choice questions exclusively. There are a few boards that still use short-answer type items which are graded subjectively by board members.

The time required for the written test in barbering also varies. In Jefferson County, candidates are allowed all day if they should need that much time. Most candidates finish in 2 1/2 to 3 hours. Elsewhere the time allowed, while not unlimited, appeared to be adequate for the number of questions.

Few boards make any sort of analysis of the items used. California is an exception, since it analyzes each question as to its difficulty. The Texas board, on the other hand, is not concerned with the difficulty of individual questions, but only with the overall fail rate. If more than 20 percent fail, the test is considered too difficult and adjustments are made in grading to retain a fail rate that is below this level.

An indication of the coverage of a barber's licensing examination may be gleaned from the following outlines provided by the licensing board in Illinois. Apprentices are tested on the following topics: anatomy, physiology, electricity, light therapy and message, skin diseases, bacteriology, sanitation, barber history, and barber law. The registered barber's examination includes questions on the following subjects: ultraviolet radiation; high-frequency electricity; scalp and facial treatments for cosmetic purposes; the use of creams, lotions, and other preparations; ethics; salesmanship; and professional courtesy. The survey staff did not obtain similar data from the other states so it is not certain whether the coverage in the Illinois examinations is representative. However, since the topics are those covered in standard textbooks dealing with barber science, it is reasonable to assume that similar topics are covered elsewhere.

The practical examination in barbering usually consists of giving a haircut and shave to a model. Some states also include a massage on the examination. In many places the same standards are used for evaluating apprentice barbers as are used for registered barbers. In California, a commission which studied the operation of all licensing agencies in the state recommended "discontinuing the apprentice license category in that there is no substantial difference between this and the regular barber category." [2]

The administration of a practical examination is usually handled by members of a barber board. A candidate may be observed and graded by a single board member or by several. Most boards use some type of checklist, but few provide evaluators with guidelines as to what constitutes acceptable performance. The performance rating used in Illinois includes only three items: sanitation, shave, and haircut. An interviewer was advised that if the candidates washes his hands before beginning to work on his model, he receives 100 percent on sanitation. The shave and haircut are essentially scored either as "pass" or "fail."

In Oklahoma each applicant is graded on the following categories by three examiners: haircut, shave, tools, sanitation, application, and scalp treatment but no guidelines are provided. In addition, massage and shampoo are covered by means of oral questions.

The Florida barber commission uses the following rating scheme: haircut, up to 50 points; shave, up to 25 points; manipulation of comb and scissors, up to 7 points; sterilization, up to 15 points; and oral questions and appearance, up to 3 points for a total of 100 points. Two examiners rate each applicant and their ratings are then averaged. A score of 75 is needed in order to pass.

The California barber board allows up to 20 points for the written test, up to 10 points for the oral test, and up to 70 points for the practical test. At least 75 points are needed by a candidate in order to pass.

In Georgia, examiners rate applicants on the following topics, with the maximum number of points for each item as shown:

	Points Allowed
Personal Appearance	5
Taper	12
Outline	12
Blending of Hair on Sides	5
Finished Haircut	3
Preparation for Shave	3
Strokes in Shaving	3
Finished Shave	5

No guidelines are provided to help examiners in making their ratings.

The examples cited serve to illustrate the diversity of approaches used by licensing boards in determining competency. Few boards make any effort to advise candidates beforehand as to what they should expect on the written and practical examinations. However, many boards indicated that they would be glad to provide such information if requested. They noted that barber colleges are well aware of the nature of the examinations and usually keep their students informed. Those learning the trade via the apprenticeship route might have greater difficulty than these students, especially on the written tests.

Unlike those in cosmetology, the barber examinations tend to be given in many locations throughout each state. In New York, the tests are given 7 times a year in 6 cities. In Texas, the test is offered in 9 different cities twice a month, except during the months of November and December, when the board is very busy processing renewals. In California, the test is given more or less continuously in 5 locations by three board members who are full-time employees of the board. Florida also administers its test in major cities throughout the state 6 times a year. Georgia tests applicants 4 times a year in various parts of the state. Not all states test in several locations. Oklahoma still requires applicants to appear in Oklahoma City, where they are tested at a barber college. Testing takes place 4 times a year.

WHAT IF AN APPLICANT FAILS?

Cosmetology: Although precise figures were often unavailable, the fail rate in cosmetology does not appear to be high. In Texas, out of approximately 6,200 who took the examination one year, only 283 failed - less than 5 percent. In Oklahoma, officials estimated that the fail rate is under 10 percent. Arizona board officials pointed out that approximately 15 percent of its applicants failed the written test, but only 1.5 percent failed the practical test. The fail rate in Illinois is considerably higher (20 to 25 percent), but officials indicated that nearly everyone who fails is able to pass on a subsequent attempt.

The fail rate among students who have attended schools of cosmetology tends to be low. The reason for this is suggested by comments made by the head of one such school in New York. This individual reported that he was very proud of the fact that 99.9 percent of his students pass the written test on their first attempt. He claimed that it was virtually impossible for them to fail unless they "goof off." He explained that throughout the year, students are drilled on questions from a review book published by Keystone Press. This particular book, he stated, contains about 90 percent of the questions that are likely to appear on the examination. "On the day of the test, we have the students report to the school at 9 a.m. and we drill them on questions that are almost identical to those they will find on the examination when they take it at 3 o'clock." The ethics of such a procedure are certainly open to question. Few other cosmetology educators claimed such a high rate of success, but there was general agreement among those interviewed that there was very little excuse for any student to fail. They attributed failures to lack of interest on the part of the student in the academic side of cosmetology. "They like to work on hair; books bore them," said one instructor.

When candidates fail, cosmetology boards do not, as a rule, require that they retake the entire examination. They must retake only that part which was failed, either the written or the practical test. In many states, the board requires a retake only on the specific subject in which a candidate scored below 75 percent. In Florida a candidate who failed only one subject is advised to return to school for 50 additional hours of training and is licensed after passing the school's own examination in that subject. A candidate who has failed 2 out of the 10 subject fields must return to school for additional training and then ask to be retested by a district board member. Only those candidates who fail 2 or more subjects are required to return to the testing center at Winter Haven for additional testing.

In Alabama, after a first failure, a candidate repeats only that part of the test (written or practical) she did not pass. After the second attempt she must return to a beauty school for 350 hours of additional training. If she had followed the apprenticeship route, she would have to show 600 hours of additional work under a registered cosmetologist before being allowed to repeat the examination.

California follows a similar procedure. The candidate may retake the part she failed after a 30-day waiting period. Should she fail to pass on the second attempt, she must return to school for 500 hours of additional training, with a minimum of 50 hours in each subject she did not pass.

Ohio allows candidates to fail three times before they are required to return to school. They must then take 200 hours of training and wait at least 60 days before being retested.

Illinois seems to lose patience more quickly with those who fail than do most other states. After a second failure, a candidate must petition the board before she is allowed any additional retakes and she must present evidence of having done further study.

New York State allows a maximum of three retakes. After a candidate has failed for the third time, she is not allowed to take the examination again. Georgia and Arizona, on the other hand, allow candidates to retake the test indefinitely.

As one would expect, boards vary widely in the way they handle fees for retaking an examination in cosmetology. Ohio, Alabama, and Oklahoma allow one or more retakes without charge. Texas, California, Illinois, Georgia, and Arizona are among the states that require a candidate to refile and pay the full fee each time she is tested. The fee is usually $10 to $15, although in Georgia it is $30. Florida charges a pro rata fee, based on the number of parts on which a candidate is reexamined.

How does a candidate find out her areas of weakness so that she may do better the next time? Many states routinely inform candidates of the parts of the examination they failed. In California, the cosmetology board informs the candidate of her actual score on each part and provides her with a complete breakdown on the practical examination.

Should a candidate wish to examine her paper or to discuss an answer with a board official, it is usually necessary for her to travel to the board headquarters. Few boards encourage such face-to-face visits, but most are willing to go over a paper with any candidate who is sufficiently motivated and financially able to make the trip. Florida was the only state visited where the board was willing to go out of its way to review a candidate's test performance with her. According to the executive director of the board, if a candidate requests a review of a test she had failed, the written test paper and/or the practical examination score card are sent to the member of the board from the congressional district in which she resides. The candidate is able to go over her performance and obtain suggestions for improvement without having to travel all the way to Tallahassee.

Barbering: As in cosmetology, students tend to have more difficulty with the written part of the examination than with the practical part. Licensing officials in several states reported that the fail rate on the written test is about double that for the practical test. This is especially true for candidates who learn the trade by the apprenticeship route. Most master barbers under whom apprentices work assume no responsibility for teaching them the theoretical aspects of the trade. The apprentice must study on his own. This is often quite difficult for the essentially nonverbal population that elects barbering as a vocation.

Students who attend barber college have a distinct advantage with respect to the written examination because they are given classroom instruction on the theoretical aspects of barbering and considerable drill on questions found in barber board review books. In those states where licensing boards tend to draw their questions from a review book, students who attend a barber college are likely to encounter a high proportion of questions on the examination that they had previously studied in the review book. In California,where the licensing board makes up its own questions, the fail rate is about 50 percent—a substantially higher rate than is typically reported. This suggests that the memorization of questions appearing in a review book or asked on previous examinations is less likely to benefit California applicants than it is applicants in other states.

The retake practices of barber boards resemble those of their counterparts in cosmetology. Most boards require candidates to retake only the part of the examination they failed provided they do so within a specified period—usually one year. Candidates who do not pass are usually required to return to school for some stated number of hours of further training, but this is not a universal practice. In Illinois apprentices may retake the examination indefinitely without showing any evidence of additional schooling. In Oklahoma any candidate who fails the examination three times must appear before the board and explain why he is unable to pass. The board then determines if he is to be allowed any further tries. The Michigan board is more stringent than most. A candidate who fails either part of the examination is required to reenroll in a barber college for three months before he is allowed to try again. If the candidate is an apprentice, he is allowed to continue working only until the results of the examination are known. As soon as it has been established that he failed, he must stop work immediately and enroll in a barber college for three months of formal training before he is allowed to attempt the examination again. In Florida, as well as in most other states, apprentices are allowed to continue to work after they have failed the examination. New York State allows a candidate to try the examination only three times; thereafter he is barred from further attempts.

Most states require candidates for a barbering license to refile and pay the full fee when they wish to be reexamined. The fee is usually about $25. In Jefferson County, Alabama (Birmingham), the license fee is $50, but the full fee is refunded in the event that a candidate does not pass the examination. In Montgomery County, Alabama, where the fee is $25, only half of the fee is refunded to a candidate who fails.

Some barber boards provide information about areas of weakness to candidates who fail "only if they ask"; other boards do so routinely. California sends each failing candidate information covering the subjects failed and a complete breakdown of the performance test results with reasons why credit was deducted. If a candidate wishes to go over his paper, the executive secretary arranges for the candidate to meet with a board official at a testing center near his home. It is not necessary for the candidate to travel to Sacramento. Most other boards are willing to review test performance with candidates but only at the board's offices, which are usually located in the state capital. Only those candidates who can afford to make the trip are able to avail themselves of this benefit.

Several states indicated that their retake policies were different for out-of-state candidates than for residents. In California a resident must take 250 hours of training before he can reapply if he has failed the barber examination, but an out-of-state candidate who has failed may reapply immediately. In Illinois residents may retake the test the next time it is given without the necessity of going to school. However, an out-of-state candidate who fails on his first attempt must study for 90 days under a licensed instructor who must then notify the board by a notarized letter that, in his opinion, the candidate is ready for a retake. If an out-of-state candidate fails a second time, he must return to school and repeat the entire course of instruction (1,872 hours) or he must serve a 2 1/2 year apprenticeship before he is allowed to take the examination again. In Oklahoma residents must wait 6 months before they are allowed to retake the examination while out-of-state residents may retake it after 3 months. There seems to be no satisfactory explanation for these inconsistencies, some of which clearly favor out-of-state applicants and some of which appear to discriminate against them.

Neither the barbering boards nor the cosmetology boards that were studied had any well-defined route of appeal through which candidates could seek redress if they felt that they had been treated unfairly with respect either to eligibility or to the grading of their examinations. When asked about appeals, most board officials indicated that candidates had the right to appeal to the board for a review of their applications or test scores, but they acknowledged that this seldom brought about any change in a verdict because the same people who had made the initial determination handled the review. In states with centralized licensing, including California, Illinois, and Michigan, candidates may usually appeal to the director of the licensing agency, but the director is not likely to overrule a board except under very unusual circumstances.

Board officials acknowledged that while disgruntled candidates could always appeal to the courts, tney almost never did so. The cost of litigation, the time involved, and the fear of incurring the enmity of the boards probably militate against seeking redress through the courts.

While no instances in which boards had dealt with candidates in an arbitrary fashion were uncovered, it is obvious that the candidate's right to work is completely at the mercy of a board which examines his qualifications. In view of what is known about the quality of the tests used, it would appear that in many cases the board is making decisions that affect an individual's right to earn his livelihood on the basis of questionable data. The individual is often placed in the position of returning to school and incurring additional expense—to say nothing of his loss of income during the period while he is in school—on the basis of what is probably an unreliable examination. Should he seek information about the reasons for his failure, he may be faced with the necessity of traveling to the state capital to visit the board's headquarters. Since many applicants cannot take the time or afford the expense, they stand to lose whatever benefit such consultation might provide.

Many boards seem to feel that by providing candidates with several opportunities to retake the examination they have, in effect, extended themselves to be fair. Retake provisions may seem fair from their viewpoint, but they are not necessarily fair from the candidate's viewpoint. The retake privilege usually involves, in addition to paying a new fee, the expense of travel with a model to the testing center. Where great distances are a factor, the cost of air fare, a hotel, and meals could amount to several hundred dollars, a sum which would represent a hardship to many candidates. It is in this context that one is prompted to ask whether existing procedures do indeed provide adequate safeguards to the individual. The evidence examined would suggest a negative answer.

WHAT IF A LICENSED OPERATOR MOVES?

When a licensed barber or cosmetologist relocates, he may discover that years of successful experience in an earlier location carry little weight with licensing agencies. In most states, boards not only require an in-migrant to pass both a written and a practical examination, but they also usually will not even allow him to take the examination unless he meets the eligibility requirements of the new state, which may include many hours of training in an approved school, months of apprenticeship, years of formal education, and United States citizenship, as well as other factors. Stringent requirements are defended on the grounds that they are necessary to uphold standards and to protect the public. However, from the tenor of discussions with board officials in many states, it is clear that the officials feel that they have a responsibility to protect the job security of state residents from in-migrants. Barbers' board officials frequently referred to "travelers" who would migrate to resort areas during the peak season. This practice, they felt, was undesirable. Rigid adherence to licensing prerequisites helps to discourage the practice. Other officials who expressed opposition to reciprocity indicated that widespread reciprocity would cause an influx of barbers and cosmetologists from the poorer states to those states where the population was more affluent.

Because barber and cosmetology boards differ in the way they deal with in-migrants, each occupation will be discussed separately.

Barbering: Most of the states covered in the survey do not have formal reciprocity arrangements with other states. This means that every in-migrant must meet the same eligibility requirements and take the same examination as do residents. Several board officials indicated that they customarily waive the practical examination for applicants who have been practicing their trade in another state, but that they always require them to take the written test.

New York State officials said that they had reciprocity arrangements only with Georgia and Maine. Applicants from these states are licensed without examination provided that the in-migrants have had at least 3 years of experience and meet the same eligibility requirements as those that their home states impose upon New York State residents. If an individual has had less than 3 years of experience, or if he comes from a state which does not have a reciprocity agreement with New York State, he is required to attend a barber school in New York, usually for a minimum of 250 hours.

State boards seem to vary widely in their attitude toward training acquired elsewhere. Oklahoma does not recognize out-of-state schools; hence, unless a person holds a valid license, no credit is given for formal training received outside of the state or for apprenticeship time that may have been served. The candidate must start over again and take either 1,200 hours of training in a state-approved school or work as an apprentice in the state for 18 months.

In Florida the credentials of out-of-state applicants are checked carefully to make sure that all requirements are met. If a licensed applicant is deficient with respect to some requirement, he is advised as to how he can make up the deficiency. If he had only 1,000 hours of training in a barber college, he is told to enroll for an additional 500 hours in a school within the state. If he had not completed the tenth grade, he might be told to prepare for the high school equivalency tests in order to satisfy the educational requirements. Florida does not issue any temporary licenses. An in-migrant might have to wait as long as 2 months to take the licensing examination.

California also examines the credentials of licensed barbers from other states. If they are in order, the individual is allowed to take the examination. If not, he must make up whatever deficiencies exist.

Illinois requires all qualified in-migrants to take the state examination. If an applicant fails, he must study with a qualified barber instructor for 90 days. If he fails a second time, he is required to go back to school for the full 1,872 hours of training or to complete a 27-month apprenticeship program.

The three counties in Alabama visited present an interesting case study of how local licensing can be used to inhibit not only interstate mobility but also mobility within the state. None of the three counties has any form of reciprocity with the others. Anyone who seeks to be licensed must meet local requirements and pass the local examination. The executive secretary for the Jefferson County barber board, which includes Birmingham, stated, "Any barber who comes to Jefferson County must serve as an apprentice for three years no matter how much time he may have served as an apprentice elsewhere." This requirement, he feels, keeps out "fly-by-nights." The barber board for Montgomery County, which includes the city of that name, requires an applicant from another county in the state to prove that he has a job before it permits him to take the licensing examination. Only in the city of Huntsville did there seem to be any receptivity to outsiders. In-migrants there are issued a temporary permit for which they pay a $10 fee. The permit is valid until the next test is administered.

Cosmetology: States vary widely in their treatment of cosmetologists from other states. Oklahoma issues a license without requiring an examination if the applicant is currently licensed, providing that the requirements in the licensing state are equivalent to those in Oklahoma. Since it is one of the three states that require only 1,000 hours of training, virtually any licensed cosmetologist could become licensed in Oklahoma. According to the executive secretary of the Oklahoma board, an applicant sending credentials in advance could be licensed on the day of arrival in that state. An applicant who fails to send in credentials in advance will be issued a temporary license pending credential verification. An out-of-state applicant whose license has expired will be granted a temporary permit to work under a licensed operator. This is done, according to the secretary, to enable an applicant to keep in practice while waiting for the next test administration.

While Illinois has no formal reciprocity agreements with other states, licensed out-of-state applicants are granted licenses without examination if they can demonstrate that their training and experience are "equivalent" to those required in Illinois. Each year between 700 and 800 out-of-state applicants are licensed in this way; the review process takes approximately 6 weeks. Although the board is rather lenient in its treatment of licensed cosmetologists, it takes a stringent attitude toward those who lack the minimum of 1,500 hours of training. An applicant who had completed only 1,300 hours of training in an out-of-state school would not be allowed to make up the additional 200 hours in an Illinois school. She would have to enroll as a new student and take the full 1,500 hours of training!

Licensed applicants from other states seeking a license in Florida must take the state examination. Applicants with expired licenses are encouraged to have them reinstated. Should this prove to be impossible, the applicant has no choice but to enroll in a Florida school, which then evaluates her level of competency and specifies how much additional training will be needed in order for her to become qualified to take the test.

In California the board will endorse the license of another state only when the requirements are equivalent to those in California. In any case, the applicant must take the examination. An applicant from a state with requirements not as high as those in California must enroll in a California beauty school and make up whatever deficiencies exist. There is no provision for issuance of a temporary permit during the period in which an individual's credentials are being reviewed.

Alabama has no formal reciprocity agreements with other states. Licensing by endorsement is limited to licensed applicants who can demonstrate that they have been actively engaged in the practice of cosmetology for 5 years preceding their move to Alabama. Such applicants may be granted licenses without examination. According to the director of the cosmetology board, "Quite a few people seek licensing in this way and their requests are usually granted." Those who do not meet the requirements must take the examination, but they are permitted to work under a temporary permit until the next examination is given.

States with formal reciprocity agreements generally endorse the licenses of in-migrants on the basis of the same requirements that the other state imposes on its residents. New York State has reciprocity agreements with 33 states. A minimum of 3 years of experience is required for licensing by reciprocity with any state. Should one of the states require 5 years of experience for out-of-state residents, then applicants from that state must have 5 years of experience before they can be licensed in New York under the reciprocity agreement. This clearly imposes a hardship on some, since it leaves them no alternative but to seek licensure through the regular channels.

Arizona officials said that they had "full reciprocity" with 40 states. Residents from these states must have had at least 3 years of experience and must meet the Arizona training requirements. Qualified applicants are permitted to take the test; others must work at least 3 years before taking the examination. Those from out of state who can qualify for licensing via the reciprocity route pay only a $15 fee, while those taking the regular route have to pay $40.

Texas has reciprocity agreements with 24 states and the District of Columbia. The requirements for in-migrants are those imposed by the other state on Texans seeking licensure in their state. The requirements vary tremendously. Nonetheless, any in-migrant who meets the state requirements is licensed without having to take an examination.

WHAT HAPPENS TO MINORITY GROUP MEMBERS?

Cosmetology: A black girl who aspires to be a cosmetologist generally has two options. She can enroll in a program that is designed primarily to prepare her to work with black patrons, or she can go to a school which emphasizes services to white clients. If she elects the former, she will learn the arts of hair relaxing, hair pressing, and croquignole waving (a technique for making hair wavy by winding strands of hair around metal rods and applying heat by chemical or electrical means). As a rule, she will not learn permanent waving in such a school because this skill is not likely to be needed if her work is restricted exclusively to Negro women. If, on the other hand, she decides to take her training in a school that teaches mainly in terms of white patrons, she is unlikely to acquire the skills that would enable her to work on the hair of Negro clients.

The dichotomy in kinds of training is officially recognized by most cosmetology boards. In New York State a student who had attended a beauty school for Negro students would be required to demonstrate her skill in hair straightening on a Negro model during the practical part of the examination. She would be asked a few oral questions about permanent waving. On the other hand, if she had attended a predominantly white beauty school, she would be expected to bring a white model to the examination and to go through the steps of giving the model a permanent wave. The applicant's knowledge of hair relaxing would be examined by means of a few oral questions.

The dichotomy in training, sanctioned by state cosmetology boards, virtually ensures the result that there will be segregated beauty parlors. White shop owners can turn away Negro customers on the basis that none of their operators is trained to work on the hair of Negro women. At the same time, Negro cosmetologists who studied in Negro schools are effectively excluded from finding employment in white shops as operators unless they return to school for additional training in permanent waving.

Cosmetology instructors in several white schools indicated that many of their Negro graduates went to work as assistants to top-flight hair stylists. They give shampoos and do hair tinting for white patrons and have an opportunity to learn advanced techniques of hair styling. The instructors acknowledged that although the girls made good money, mainly from tips, they were using only a fraction of the skills acquired during training.

A number of school owners decried the booth system which is so prevalent in Negro communities. Under this system, a Negro cosmetologist leases a booth in a beauty shop. Although she pays rent for the booth, the owner is under no obligation to provide her with customers. As most customers tend to prefer the older, more experienced operators, the younger operators are idle most of the time. An instructor in the Los Angeles area said that the beauticians seldom earn more than $50 to $75 a week under the booth system and do not have an opportunity to build up clienteles of their own or to establish an equity in the shops where they work.

A white cosmetology instructor at Los Angeles Trade-Technical College said that in Los Angeles the large department stores were beginning to employ Negro cosmetologists and were consequently attracting a large following of Negro customers.

Hair straightening was proving to be a lucrative business and customers were glad to take advantage of such a service, especially when they found that the charges could be put on their accounts. Smaller shops are apparently unwilling to hire Negro operators mainly for fear that such operators might attract Negro patrons and possibly drive away some of their white business.

The instructor at Los Angeles Trade-Technical College also had some interesting observations to make about Negro men who wished to become cosmetologists. She indicated that the dropout rate for such students has been very high at the college. She attributed this to two factors. First, the Negro man has to adjust to being in an environment that is virtually 100 percent female. He may anticipate that this will be a fine experience, but he soon finds that he objects to the social isolation. A second factor is psychological. Many Negro men, according to the instructor, have difficulty getting used to the idea of touching a white woman; and white women who are not accustomed to receiving personal service from a Negro man may also be tense. The instructor reported that a number of men do finish the course and go on to very good careers, but the attrition rate is about twice as high for Negro men as it is for Negro girls.

Owners of private beauty schools who were interviewed generally tried to convey the impression that their doors were open to all students, including Negroes who, they claimed, had no difficulty learning the necessary skills or in passing the licensing examinations. Several school owners did acknowledge the fact that job placement opportunities were not as good for Negro graduates as for whites. Many of their Negro graduates go to work in high-fashion salons where they make more money as shampoo girls than they could make as full-fledged operators in a less prestigious beauty shop.

In Austin an outspoken school owner who stated quite frankly that he did not encourage Negro girls to enroll was encountered. He reported that he actually discouraged them from enrolling. When asked why, he stated that Negro girls "cannot seem to go along with a customer's wishes regarding hair style." He hastened to add that this was not true of other minorities. He mentioned that Mexican-American and Japanese-American girls have a real talent for working with hair and he always encourages them to enroll. He further remarked that he had no difficulty placing such graduates in good jobs.

The manager of a beauty school in New York City reported that about 25 percent of his students were from minority groups. He said that neither Negroes nor Puerto Ricans had any difficulty learning the applied side of hairdressing but that they often had problems with the textbook material. He said that his instructors do a great deal of drilling with questions from the Keystone and Milady review books. They even use a Spanish version of one of these review books. As a result of the tutoring, most of the girls pass the examination on the first attempt. The most serious problem the manager encounters is that of the white patron who refuses to let a Negro girl work on her hair. He said that this happens only occasionally and that it does not severely interfere with a girl's training.

A representative of a beauty school chain in California reported that while his schools did not have a large number of "hard-core" students, they tried to work with various agencies in providing training to the disadvantaged. He said that such students were often referred to the school through various manpower programs such as Work Incentive Program (WIN) or through a vocational rehabilitation agency. When a disadvantaged student applies but lacks the funds, this California chain makes use of a special liaison person who attempts to obtain financial aid from an appropriate state or federal agency. The representative said that when such aid is not forthcoming, he has been authorized by the president of the company to grant scholarship aid to qualified students who appear to be highly motivated. This company states that it supports between 75 and 100 disadvantaged students on full or partial scholarships. While this individual was proud of what his organization was doing to help those in financial straits to obtain training, he felt that a liberal loan program would be preferable since a graduate of cosmetology school should have no difficulty in repaying the $450 in tuition and less than $100 in other expenses from her future earnings.

Barbering: The situation in barbering is somewhat similar to that found in cosmetology. Where barber colleges exist, they tend to be segregated. Where training is done via the apprenticeship approach, a Negro youth is likely to be accepted only by a Negro barber. Most barber shops serve either Negro or white patrons—seldom both.

Most white school owners acknowledged that they discouraged Negro students from enrolling. They defended this practice on the grounds that they had so few Negro customers coming to the school for haircuts that these students would not get enough practice in cutting hair. It seems to be taken for granted that Negroes would not be trained to cut the hair of white customers and that whites would not be trained to cut the hair of Negro customers.

Most licensing boards not only accept the segregation situation in barbering but also give it official sanction by omitting from the prescribed curriculum any requirement that white students be taught to cut the hair of Negroes and vice versa. Boards have apparently been tolerant of the discriminatory practices of training institutions and have accepted the discrimination of licensed barbers with respect to providing services to minority group members.

While one might have hoped that barber boards and cosmetology boards would have shown greater leadership in eliminating discriminatory practices which are clearly not in the public interest, one should not be surprised that, in general, they have supported the status quo. A board made up almost exclusively of practitioners from the regulated occupation seem quite ready to place the prejudices and the narrow interests of the occupation ahead of the public interest. Interviews with board officials in various states revealed that they apparently see nothing wrong with the self-interest concept and are not likely to initiate changes unless compelled to do so by external pressures. Perhaps if public members were included on boards, they would be able to exert moral leadership in this regard.

HOPEFUL SIGNS OF CHANGE

The Fair Employment Practices Commissions that have been established in many states are one possible source of external pressure on licensing boards. In California, a Negro member of the state Fair Employment Practices Commission initiated an investigation of discriminatory practices in barber and cosmetology schools. He argued that every licensed cosmetologist and barber should be competent to render the full range of services to any citizen regardless of color. As a result of his efforts, the state board of cosmetology made changes in the state-approved curriculum so that all schools are now required to teach both permanent waving and hair-relaxing techniques to all students.

The California commissioner had the Fair Employment Practices Commission conduct an investigation to confirm the allegation that one of the largest chains of barber colleges in the state maintained segregated training facilities so that Negro students worked only on Negro customers and white students on white customers. His investigators found this allegation to be correct. Indeed the schools even maintained separate entrances for Negro and white patrons. When the Fair Employment Practices Commission called this situation to the attention of the barber board, that body ordered the schools to cease discriminatory practices and to teach all students how to cut the hair of both white and Negro patrons. A follow-up investigation by a Fair Employment Practices Commission staff member revealed that the schools had complied with the order and that segregated training had been eradicated. The success achieved by the Fair Employment

Practices Commission in California suggests that similar groups in other states may be successful in pursuing these matters with their own licensing agencies.

At the time the field survey was under way, it was learned that the state board of cosmetology in Oklahoma had, on its own, taken a preliminary step to rectify segregation conditions in that state. According to the executive director, up to that time only Negro schools were authorized to teach thermal techniques. This had the result that none of the board members and none of the inspectors were familiar with the procedures. It was decided that, as a first step, members of the board, the executive director, and the inspection staff would enroll in a program to learn thermal techniques. Then new rules would be issued requiring that all schools teach hair relaxing as part of the standard state-approved curriculum. One problem encountered was the lack of Negro patrons for students to practice on. It was also felt that some operators might learn the technique in school but because of lack of practice, would be unable to maintain the skills. While these were matters of concern to the board, the executive director felt that the board was moving in the right direction and that some way would be found to deal with obstacles.

The failure of licensing boards to face public interest issues--especially those relating to the training and the provision of services to minority group members--stands as a serious indictment of such boards. If protection of the public is a valid basis for licensing in barbering and cosmetology, a good case can be made for eliminating the existing trade-oriented structure and for placing the responsibility for monitoring the health of practitioners and the cleanliness of barber shops and beauty salons on trained sanitarians from local health departments.

V

LICENSING IN THE TRANSPORTATION FIELD

Safety and public transportation are so closely intertwined that everyone is quick to recognize the need for maintaining checks on the capabilities of those who fly airplanes, navigate ships, and drive buses, taxicabs, or over-the-road tractor-trailers. The public takes for granted that some governmental agency has provided for its safety through licensing or certification, but few people actually know which of the transportation occupations are licensed, by whom licensing is administered, what types of examinations are given, or how good the tests are.

The present study did not attempt to make a detailed investigation of licensing in the transportation industry. Aircraft mechanics had been included, initially, as a skilled trade in which manpower shortages were known to exist. Deck and engineering officers in the Unites States Merchant Marine were added since information about this occupation was available as a by-product of another study.[28] A limited amount of data about over-the-road drivers was included, but no field study of this occupation was conducted.

The three groups discussed in this chapter are of special interest in that each is regulated by the federal government. Airplane mechanics are certified by the Federal Aviation

Administration (F.A.A.), deck and engineering officers are licensed by the United States Coast Guard (U.S.C.G.), and over-the-road truck drivers are certified by the Bureau of Motor Carrier Safety of the Federal Highway Administration. There is no functional relationship among these various agencies. Each handles its licensing or certification responsibilities in its own way.

AIRPLANE MECHANICS

Federal Aviation Administration regulations require that all aircraft be periodically inspected or overhauled under the supervision of certificated mechanics. Other types of mechanics may work on a plane, but only certificate holders may sign documents attesting to the fact that the aircraft is ready for return to service. This places a great responsibility on each certificated mechanic working for a major airline or servicing private aircraft.

The responsibility for an aircraft's safety is divided between two types of mecnanics. One is concerned with the power plant while the other is concerned with the airframe. Some mechanics hold dual certificates which permit them to supervise and sign off both systems. The FAA regulations [5] define the scope of each type of mechanic's work as follows:

> A certified airframe mechanic may approve and return to service an airframe or any related part or appliance after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations). In addition, he may perform the 100-hour inspections required on an airframe or any related part or appliance and approve its return to service.[5]
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> A certified power plant mechanic may approve and return to service a power plant or propeller or any related part or appliance after he has performed, supervised or inspected its maintenance or alteration (excluding major repairs or major alterations). In addition, he may perform the 100-hour inspection required on a power plant or propeller or any part thereof and approve and return it to service.[5]

The F.A.A. also issues a special repairman's certificate. This enables an individual to perform a specialized task for one carrier only. The repairman's certificate is not transferable to another employer. It is estimated that approximately half of all the mechanics working in the industry fall in this category. The repairman's certificate is issued without any examination. The major requirements are that the individual be at least 18 years old and have 18 months of practical experience in the operating job for which he is to be certified. He must be recommended to the F.A.A. by his employer. The F.A.A. inspectors may revoke a certificate if they find that an individual's work is not up to F.A.A. standards. This study is not concerned with the repairman's certificate, but deals only with licensed airframe and power plant mechanics.

What Does It Take to Be Licensed?

An applicant for certification as an aircraft mechanic must 1) be at least 18 years old, 2) be able to read, write, speak, and understand the English language, 3) have passed all the prescribed tests within a period of 24 months, and 4) satisfy the specified experience requirement. An applicant living outside the United States and employed by a United States air carrier is not required to be literate in English, but his certificate is endorsed, "Valid only outside of the United States." The logic of this endorsement is not clear since it would appear that any non-English-speaking person who had the capacity to repair aircraft outside of the United States would certainly have the capacity to do the same within the United States.

United States citizenship is not a requirement for certification, and no check is made regarding an individual's moral character. However, a number of people associated with training institutions pointed out that because of the high value of airplane cargoes, most airlines will not employ anyone who has been convicted of a felony or anyone who has been involved in the use of drugs. Since there are training programs for airplane mechanics in a number of prisons, it would appear that this field is not necessarily closed to those with prison records. Most of those interviewed agreed that the decision regarding an individual's moral fitness should be determined by the prospective employer in relation to the job that needs to be done.

Before an individual is allowed to take the F.A.A. licensing examination, he must satisfy an experience requirement. He may do this in one of two ways:

1. By providing vertified evidence of at least 18 months of diversified experience with the procedures, practices, materials, tools, and equipment generally used in constructing, maintaining, or altering airframes or power plants. Although the 18-month experience requirement applies to either the airframe or the power plant license, an individual may qualify for both licenses by showing 30 months of appropriate experience. The necessary skill is generally acquired by working as a mechanic's helper in the overhaul shops of the airlines, general aviation, or of the military.
2. By providing evidence of graduation from an F.A.A. approved aircraft mechanics school.

There are now over 100 F.A.A. approved schools in the United States. To be approved, a school must meet minimum standards established by the F.A.A. A school's certification can be revoked if fewer than 80 percent of its graduates fail to pass the F.A.A. licensing examinations on their first attempt. The prescribed course of study requires that students receive at least 1,680 hours of instruction. In most schools, students must make up any class time missed because of illness or other reasons.

Recently there has been a rapid growth of aircraft mechanics training programs. In 1966, there were only 78 programs; in 1968, there were 97; and in 1969, the total reached 109. The number of students enrolled by these schools has also been increasing. The director of admissions at one school in the Southwest reported that in 1966 his school was training about 600 students a year. Three years later, enrollment had doubled. Los Angeles Trade-Technical College trains 120 students at a time in its day program and 80 in its evening program. The San Francisco public schools train an average of 100 students each year, with a waiting list of approximately 125 at all times.

The F.A.A. licensing requirements exert a powerful influence on the curriculum in the schools which train mechanics. Educators interviewed acknowledged that they teach whatever the certification tests require, regardless of its relevance. For example, as long as the test called for a knowledge of making fabric repairs, this skill was included in the curriculum despite the fact that it is rarely used by mechanics. A 1966 study of functions performed by airplane mechanics has brought both the curriculum and the testing requirements into line with current practices in the industry. [2]

Interview results strongly suggest that schools place heavy emphasis on preparing students to pass the F.A.A. written examinations, since too many student failures could result in the loss of accreditation. At one school which was visited, students are prepared for the F.A.A. examinations by being required to pass a series of written examinations before graduation. If a student is unable to pass the in-house examinations, he is not granted a diploma and is, therefore, not eligible to sit for the F.A.A. test. Because of procedures like this, anyone who successfully completes the program at one of the better schools is almost certain to pass the written F.A.A. examination on his first attempt.

Who Does the Licensing?

Licensing requirements and procedures are established by the F.A.A. and implemented by its field staff. The examinations are prepared and scored at a special testing center in Oklahoma City. Written tests are administered at over 200

F.A.A. Flight Service offices throughout the country and in many foreign countries. The practical and oral examinations are administered by F.A.A. inspectors or by designated mechanics examiners. These designated examiners are private persons (either working mechanics or instructors) who are neither employed by nor compensated by the F.A.A. They are authorized to charge applicants a fee for administering the tests.

The written tests are scored by the F.A.A. in Oklahoma City, and a report is sent to each individual tested advising him if he has passed and, if not, what parts of the test he failed. In general, an applicant must pass the written test before he is permitted to take the oral and practical tests. However, an exception is made in the case of students enrolled in approved training programs. They are permitted to take the oral and practical examinations, but not the written examination, near the end of their training program. The reason cited for this is to spare the student the necessity of having to make arrangements to have the test administered by an inspector or F.A.A. designated examiner after he has left school. However, this practice could also work to the advantage of the school since the student would be checked out by his own instructors, many of whom hold F.A.A. examiner designations.

How is Competency Tested?

The F.A.A. has recently overhauled its testing program as well as its curriculum requirements for training institutions on the basis of a job analysis conducted by David Allen [2] at the University of California.

Before the Allen study was made, many complaints about training requirements and the content of the tests used for licensing were heard. The training guidelines had been developed over a 30-year period; and although efforts had been made to keep them up-to-date, they had a number of shortcomings. First, the requirements were stated very broadly. Only the subjects to be covered in the program were specified. No indication was given as to the depth or level to which subjects were to be taught. Recommendations were based largely on the collective judgments of committees which, unfortunately, did not reflect the total needs of the aviation maintenance industry. As changes occurred, new materials were added to the program, but obsolete requirements were rarely deleted. As a result, the examination engendered great confusion among training institutions. Instructors could not be sure what subject matter, or to what depth, they were supposed to teach or how much attention they were to devote to obsolete materials and practices.

In 1965, David Allen obtained a grant under the Vocational Act of 1963 to conduct an in-depth study of the aviation industry in order to determine the technical knowledge and manipulative skills required by aviation mechanics. He had the full cooperation of the industry and of the 60 major institutions involved in training aviation mechanics. On the basis of Allen's study, the F.A.A. developed a core curriculum which specifies clear-cut training objectives, including statements as to the level of mastery required for each. Level 1 objectives require less extensive knowledge and no skill practice; Level 2 objectives require a good understanding of the specified subject and of associated theories and principles and the ability to perform basic skills in that area; Level 3, the highest level, requires a thorough knowledge of the subject and an understanding of how it relates to the total operations in aircraft maintenance. An individual must be able to carry out the activities involved at a "return to service" standard.

The examination requirements closely parallel the training requirements. All examinations are tailored to these rather precise specifications. The examination consists of three sections: a written test, an oral test, and a practical test for each rating. The airframe mechanics take a test on airframe structure and a test on airframe systems and components. The power plant mechanics take tests on power plant theory and on power plant systems and components.

All the examination questions are prepared by a 4-man staff of experienced item writers who critically review and revise one another's items. After the questions have been reviewed internally, they are sent to several aviation mechanics schools where they are administered to small groups of students. Instructors are invited to comment on the questions and to point out such things as missing information and misleading options. A careful analysis is made of student responses and instructor comments. This information is used in revising the test items. The F.A.A. staff in Washington or elsewhere is not involved in the preparation or review of test questions. The entire operation is handled by the examining staff in Oklahoma City.

The F.A.A. item pool at Oklahoma City consists of over 3,000 items, coded according to subject matter and level of difficulty. Each item is printed on an item card, which has coded information punched along its outside border. When the F.A.A. examiners wish to assemble a new examination, they use long needles to draw cards from the item file in accordance with a detailed test specifications guide. The selected item cards are then reviewed and a final selection is made of the items to be used in the final form. At any given time there are several parallel forms of each test in use. Such examinations are similar but not identical.

The F.A.A. issues an examination guide [1] which describes in detail the topics to be covered on each test. Sample questions and correct answers are also provided so that applicants have a good idea of what to expect.

An applicant must make arrangements in advance to take the written examination at the F.A.A. Flight Service office nearest his home. There is no fee for taking the test. The tests are of the multiple-choice variety and the candidate is allowed 5 hours for each examination. He is not permitted to use any reference materials while taking the test. After the applicant has completed his examination, his answer sheet is mailed to Oklahoma City for grading. It usually takes 5 working days for a paper to be processed. To pass, an applicant must score at least 70 percent on each part of the written test.

The reaction of training school personnel to the tests, developed on the basis of the Allen report specifications, has been generally favorable. Most of those interviewed thought that the tests were fair and that the new test plan was a vast improvement over the one in use previously. The biggest advantage seems to be that schools now have a better idea of what will be covered on the test. They are pleased to have close articulation between the curriculum, the instructional materials, and the licensing test.

After a candidate has passed the written test, he must pass an oral and practical examination within the next 2 years. The practical examination consists of mechanical problem-solving in an actual work setting furnished by the candidate. This means that the candidate must provide not only the place and the aircraft but also his own tools. When a designated examiner is employed to give the test, he generally furnishes the facility as well as the tools, materials, and supplies needed. The oral examination is given at the same time as the practical. As the candidate works at solving a problem, the examiner may ask him questions about what he is doing and why.

The problems used for the practical examination, together with suitable oral questions, are suggested in a Mechanic Examiners' Handbook issued by the F.A.A. Examiners are not restricted to these questions. They may ask other questions that are appropriate. Standards for evaluating the oral and practical examinations have been established and maintained by the F.A.A. largely through personal contact with examiners rather than through written publications.

The following are typical of the projects assigned during the practical examination: [1, p. 44]

1. Safety check of a turnbuckle
2. Make a sheet metal splice
3. Make a wood spar splice
4. Ribstitch a wing
5. Make a steel tube welded splice
6. Attach an electrical cable terminal
7. Make up a section of fuel line and install fittings
8. Bleed and adjust hydraulic brakes
9. Compute the empty weight center of gravity and the most forward and rearward loaded center of gravity of an aircraft
10. Time the valves of an engine
11. Adjust a carburetor or float level
12. Remove, clean, inspect, and reinstall an engine oil filter
13. Install and time engine magnetos
14. Remove and install a propeller

The oral and practical tests are graded by the examiner as they are finished and a report is transmitted to the F.A.A. Examination Center in Oklahoma City. A record showing specifically which problems a candidate worked on and which oral questions he was asked is maintained. Since all practical and oral questions are coded according to the specified training objectives, it is now possible for the examining staff at Oklahoma City to analyze this part of the test in much the same way that written test questions are analyzed. They know which problems are being used frequently and which ones are being omitted. Examiners are encouraged to use the problems in the Handbook rather than to substitute their own. According to the head of the F.A.A. examining staff in Oklahoma City, examiners are now following the recommendations from headquarters almost completely, thus making for improved standardization.

Administrators at some of the training schools were critical of the procedures used in administering the oral and practical examinations. One administrator associated with a public school mechanics' training program thought that the tests should be administered exclusively by F.A.A. flight school inspectors or by some outside agency. He did not think that students should ever be examined in the school setting by the same people who have had the responsibility for providing them with training. In his view, "Our business is to educate, not to act as an agency of the United States Government to certify a man's competence."

The supervisor of the mechanics' training program in a large school system felt that the present guidelines for giving and the standards for grading the oral and practical examinations were inadequate. He stated that, in his own experience, he had found that the F.A.A. men carry "too heavy a load." Under the present system, the F.A.A. inspector must be notified by the examiner of a scheduled examination so that the inspector can be there to observe the administration should he wish to do so. "Over a 15-year period," he said, "although the inspector was invited to each examination, he only came one time to see what I was doing."

By contrast, an official at a private training school was very well satisfied with the system. He stated that there were 9 authorized examiners on the school staff. The fact that these instructors were also involved in the training of candidates "poses no problem." He said that his examiners follow the F.A.A. Examiners' Handbook "scrupulously" and that the F.A.A. monitors both the examination and the curriculum very closely.

One of the weaknesses mentioned by several individuals was the flexibility candidates have in selecting their own examiner. "Word gets around as to which of the designated examiners are tough and which are easy," said one informant. "It is very natural for some candidates to seek out examiners who are known to be on the lenient side." This could become a serious problem since the examiners are allowed to set their own fees. F.A.A.

officials are aware of the possibilities for abuse under this arrangement; consequently, they endeavor to monitor the pass-fail rate of the various examiners. If it appears that one examiner is being too lenient, headquarters will alert an inspector to check his work more closely than might otherwise be the case.

What Happens If An Applicant Fails?

The F.A.A. has a unique feedback system, not only for candidates but also for institutions that do the training. When a candidate fails to achieve 70 percent on any part of the written examination, he is sent a report which gives his score and indicates where he failed. The computer which prepares the score reports is programmed in such a way that the printout provides the code designation of the curriculum areas in which an individual missed one or more questions. When the candidate receives his report, he can look up the code designation in his study guide and find out which topics he needs to study for a future examination. The applicant is also informed by the examiner of his shortcomings on the practical examination.

Not only is there no charge for the initial examination, none is made for retakes. An individual is required to retake only that section of the examination which he failed. There is usually a waiting period of 30 days before he can take either the written or the practical test again. Regulations state that an applicant may be reexamined in less than 30 days if he presents a statement from a certified mechanic or instructor who states that he has given the candidate at least 5 additional hours of instruction in each of the subjects failed and that he now considers the applicant ready for retesting. This provision is subject to abuse since the F.A.A. at present has no way of verifying whether or not the applicant actually received any additional instruction.

What Happens to Minority Group Members?

No concrete evidence was uncovered that minority group members or members of other disadvantaged groups are systematically excluded from employment in the aircraft industry because of licensing practices. The situation appears to be similar to that found in other skilled occupations—those with educational handicaps find it difficult to gain entry into training programs; hence they do not even get a chance to try a licensing examination.

Officials at several private training schools indicated that they use aptitude tests to judge whether an applicant had the basic skills in reading and mathematics necessary for successful pursuit of a very demanding program. They also check into the applicant's mechanical abilities and his motivation. These officials feel that unless a student has a strong motivation to be an airplane mechanic he will not "stick it out."

At Los Angeles Trade and Technical College, an "Aircraft Production Skills Class" is offered to those who fail to meet minimum scholastic ability requirements for the mechanics program. This is a remedial program which eventually qualifies about half of the students to enter the regular aircraft mechanics program. The other half are prepared to take production jobs in manufacturing. An official at the college expressed the view that this program should possibly be expanded and moved to the neighborhoods where minority group students live. Such a plan would eliminate some of the transportation problems that keep many students from continuing their education. Scholarships would also be helpful, he felt, but these would have to be more realistic than those that are presently available. A scholarship paying $50 a month may be barely adequate for a single young adult, but if a student is married and has a family, he cannot afford to enroll in the aircraft mechanics' program. Financial aid should be geared to need, and training should probably be coupled to work-study programs. This would provide useful on-the-job experience as well as needed income for students.

The San Francisco public schools are endeavoring to interest increasing numbers of minority group students in careers in the aircraft industry. According to the director of aviation training at the San Francisco schools, the proportion of minority group students enrolled has been increasing. When a student lacks the ability to succeed in the very demanding mechanics program, he is encouraged to seek employment in other related aircraft activities, such as cargo and baggage handling. The underlying assumption is that a young man can be motivated to continue school on a part-time basis, and that his continued association with the aircraft industry will provide the motivation needed to overcome weaknesses in reading and mathematics so that he may eventually qualify for admission to the mechanics program. Unfortunately, data on the number of students who have successfully entered the mechanics' program after accepting employment in one of these "related" fields are not available. It would seem that the risk inherent in this approach is that minority group members would find themselves mired in dead-end service jobs with little prospect of advancing either to more responsible jobs in the air transport industry or into an airplane mechanic's career.

Thus far, the F.A.A. has apparently not taken any steps to eliminate practices in certificated schools which might tend to discriminate against the entry of minority group members into the field of aircraft mechanics. Their seeming hands-off attitude with respect to screening procedures could be construed as making them a party to exclusionary practices in the training institutions which are subject to their regulation.

MERCHANT MARINE OFFICERS

The licensing of deck and engineering officers in the United States Merchant Marine has been the responsibility of the United States Coast Guard since 1942. Before then it was the responsibility of the Bureau of Marine Inspection and Navigation in the United States Department of Commerce.

There are two major categories of Merchant Marine officers: deck officers and engineering officers. The deck officers, including the master and first, second, and third mates, are all licensed. These officers take turns standing watch on the bridge and are responsible for the safety of a ship. This includes: responsibility for navigation, radar, and basic ship handling; observing rules of the road; cargo stowing and handling; and understanding emergency procedures and related rules and regulations. The purpose of licensing is to insure that the officers have a minimum level of competency to fulfill the duties and responsibilities associated with each level.

Engineering officers have watch standing responsibilities in the engine room. The chief engineer and his three assistants, all of whom are licensed to function at various levels, are responsible for the main propulsion system of the ship and for all the support systems, including electrical power, water supply, fire-fighting equipment, and all of the ship's machinery. They also supervise the work of unlicensed personnel who carry out a wide variety of functions.

The laws governing the licensing of Merchant Marine personnel and inspection of vessels are embodied in federal legislation and supplemented by Coast Guard regulations. There is no licensing board per se. The Bureau of Merchant Vessel Personnel (M.V.P.) of the United States Coast Guard has the responsibility for administering the relevant laws and regulations.

International conventions governing the staffing of merchant vessels are relatively simple——they require only that there be a master and a licensed officer to stand watch on the deck and in the engine room at all times. However, the structure of the licensing that has evolved with the United States Merchant Marine is so complex that it almost defies comprehension. Separate licensing categories have been created for oceans, the coastal and inland waters, and the Great Lakes. Licenses vary with the ship's tonnage and the type of cargo carried. Engineers are categorized according to the type of propulsion system (steam or diesel) and the amount of horsepower generated by the engines. There are 35 different master's licenses; 22 different mate's licenses; 13 different pilot's licenses; and 28 different engineer's licenses. It is not clear how many of these licenses are rooted in statute and how many are simply Coast Guard interpretation, interpolation, or extrapolation of these statutes. It is clear, however, that both the Congress and the Coast Guard have been subjected to pressures from a variety of special-interest groups which led to the creation of many special licensing categories to accommodate special needs.

Although the Merchant Marine licensing program is administered centrally from Coast Guard headquarters in Washington, D.C., day-to-day operations are handled by some 50 marine inspection stations located in major and minor ports in the continental United States and in such outlying ports as Honolulu, Guam, San Juan, and Yokohama. At each of these centers an officer in charge of marine inspection handles the enforcement of Coast Guard inspection regulations as well as the licensing of Merchant Marine officers. The latter function is performed by a senior inspector for personnel whose responsibility it is to check on the qualifications of applicants, administer and grade examinations, and issue all licenses.

When personnel at the local level encounter problems, such as in evaluating an applicant's experience record, advice may be obtained from headquarters in Washington or from one of the larger marine inspection stations in New York, San Francisco, Cleveland, or New Orleans.

What Does It Take to Be Licensed?

The specific requirements for each type of Merchant Marine license are spelled out in various Coast Guard regulations. In general, all applicants must provide proof of United States citizenship, pass a rigorous health examination given by a United States Public Health Service physician, and demonstrate good moral character. (There must be no record of felony convictions or involvement with drugs.) The crucial factors are the experience requirements and the examination. For each license, the applicant must provide documentary evidence of certain types of service aboard particular types of vessels. Before an individual is permitted to take the third mate examinations (Oceans, Unlimited), he must show 3 years of experience as an able-bodied seaman aboard large ocean-going vessels. After a year of service as a third mate aboard an ocean-going vessel, he is eligible to take the examination for second mate. After another year of experience, he is able to sit for the first mate examination. A licensed officer whose experience has been aboard a smaller ship is not eligible to take the test for a higher grade until he has acquired the requisite amount of service time in a watch-standing capacity aboard the type of ship for which he is seeking to obtain a license.

How is Competency Tested?

An applicant who wishes to be examined for an initial license or who wishes to upgrade his license may apply to any of the 50 Marine Inspection Stations. Each one is equipped to examine candidates for almost any license. Once the senior inspector for personnel is satisfied that a candidate meets all requirements for the license in question, the candidate is allowed to sit for the examination. In the smaller ports, an applicant can ask to be examined at any time and he is usually accommodated immediately. At the larger inspection stations, such as New York or San Francisco, he may be required to wait several weeks. There is no fee charged to applicants seeking licensure.

Most candidates who sit for the Coast Guard examinations have a clear idea of what to expect. The topics required for each test are carefully spelled out in well publicized regulations. Most candidates take the examinations only after completion of a formal training program, an upgrading program, or an intensive "cram" course at a private coaching school. Those in charge of such programs, especially those at the private coaching schools, frankly admit that, over the years, they have accumulated a large pool of questions that have been used on previous examinations. Since the Coast Guard has not replenished its file of items and has continued to use virtually all of its old questions, most candidates coming out of an upgrading program or a coaching school will have encountered many of the actual questions they are likely to be faced with when they are examined. This, of course, puts anyone who is studying on his own at a serious disadvantage.

When a candidate is accepted for testing, the examiner consults the regulations which specify the topics to be covered, how many questions there are to be on each subject, and other relevant matters. He then prepares a cover sheet which serves as a guide for the entire examination. Except for special situations in which applicants from a school may be tested as a group, each candidate is tested individually with a tailor-made examination. All of the test items are filed on 5 by 8 inch cards according to various subject categories. Some of the categories contain hundreds of items so that the examiner has a wide choice; others may contain only 20 to 25 items so that he has relatively little choice for these topics. For each candidate, the examiner chooses appropriate questions. In theory, the selection within subgroups is supposed to be at random, but examiners know from experience that some items are obsolete and that many questions overlap. Therefore, bearing in mind not only the background of the applicant but also the requirements of the license for which he is being tested, they review each question critically.

As a rule, an examiner selects only as many questions as he is likely to need for a given testing session. Since most of the questions are of the essay type, a typical candidate is expected to answer only about 5 questions during a half-day testing session. This is the number of cards he is given. If he finishes the morning testing session early, he is usually required to wait until after lunch before he is given his next batch of questions.

No time limits are set; a candidate may take as long as he wishes to complete the examination. Some take 30 days or more to finish. In New York City, the average candidate takes between 10 and 20 days; in San Francisco, the average time is about 10 days. The difference may be attributed to the proliferation of coaching schools in and around New York. The directors of these schools generally advise students who finish a segment early to avoid beginning a new one. In this way, they can be coached overnight on questions they are likely to encounter in the next segment.

It was learned that in group situations candidates finish much sooner than they do when they are tested on an individual basis. Candidates from the various maritime academies are generally able to complete the examination in 3 or 4 days. Deck candidates who take the upgrading program offered by the Lake Carriers' Association are tested in a group situation and are able to finish in 6 days, while the engineering candidates are able to finish in 5 days.

At the larger ports, such as New York, and in group testing situations, there is little interaction between the candidate and the examiner. In smaller ports, however, there is considerable interaction. At one port, the engineer examiner described the way in which his attitude influences his choice of questions. "If a man is failing, what I do depends on how I feel. If he seems to have the knowledge, but is just 'goofing up', maybe misinterpreting questions, I'll talk with him. I know that some of the questions are pretty misleading. Or, I may give him more questions. If he can give me six good answers, we'll get him through the section. He gets one chance. Never two." With respect to the mathematics questions, the same examiner commented, "Math is tough. They don't use much math. I'm easy on this. I'll tell them to do a question on scratch paper and I'll check the answer. If it's O.K., I'll tell them to copy it down. If it's wrong, I'll tell them and let them try again. If they can't get it the second time, that's it." The head of a coaching school reported that he instructed his students to use a similar approach with examiners whenever they are in doubt. The candidate is told to write out his answer to a question on scratch paper, show it to the examiner, and then ask, "Would you check this over for me to see if I understood the question?" If the examiner says that the answer is right, the candidate is to copy it on the official answer sheet. If not, he is told to try another approach.

Grading is generally done by the examiners as soon as the answer sheet is turned in by a candidate. For each essay question, there is a matching guide card which gives the question on one side and the suggested correct answer on the other. All essay questions are graded on a scale of 0 to 10, with the guide card giving the scoring criteria. In practice, the use of the guide card gives rise to a number of problems. Examiners often find that the suggested answer is obsolete, inaccurate, or incomplete. When an examiner has sufficient background in a given field, he is likely to grade the answers according to his own knowledge and experience. Whether he gives full or partial credit is a highly subjective matter. The inexperienced examiner, especially one with little or no experience in the Merchant Marine, has no choice other than to rely on the answer card. If he suspects that the card is wrong or incomplete, he may seek guidance from another examiner. However, there appears to be a tendency for examiners to take the course of least resistance. Several mentioned that if the applicant seemed to "know his stuff," they were inclined to give him credit for the question even if the answer did not coincide with the one on the guide card. If the examiner has a good grasp of the subject himself, he is more likely to ask for clarification orally, but, if he is uncertain, he seldom pursues the matter.

At the smaller examining centers, a greater tendency to question candidates orally was encountered than at the large centers, where such questioning is rarely done. The use of oral questions adds a new dimension to the examining process since it enables an examiner to extract the correct answer from a candidate who may have expressed himself poorly in writing. The fact that all candidates do not get the benefits of such sympathetic interrogation creates a serious disparity in the entire examining process as far as equity is concerned.

There are apparently no routine quality control procedures to insure that examiners score papers accurately and consistently. If a question is graded as passing, it is seldom read by anyone else. The only time a set of examination answers is reviewed is when an applicant appears to have failed. In New York the policy manual requires the supervising examiner to review and initial the papers of a failing applicant before the applicant is notified of his failure. According to the policy statement, "Where the failure is obvious or clear-cut, only a cursory review is called for. When the failure is borderline, a complete review of the complete set of questions for that subject should be made, not merely those questions where the credit was deducted." This approach is intended to give the borderline candidate the benefit of a careful review. At the same time it endeavors to prevent the licensing of those who are not competent.

The order in which groups of questions are presented is prescribed by regulation, although examiners have some leeway in their presentation of topics within the broad groupings. It is mandatory that a group of navigation problems be presented during the initial testing sessions, followed by a group of questions dealing with rules of the road. Both of these subjects are designated as 90 percent subjects—candidate must answer 9 out of 10 questions correctly. Unless a candidate is able to pass both groups at the 90 percent level, he is not permitted to continue with the examination. Most of the test consists of subjects each of which must be passed at the 70 percent level. In practice, whenever an individual fails to achieve the 90 percent or 70 percent level in a subject, he is given an opportunity to retake the portion of the test involved. If he meets the 90 percent standard on the retake, he is allowed to continue.

The lack of standardization in examining practices, as well as the presence or absence of coaching schools, is reflected in the diverse pass-fail rates for various examining centers. Table I[28, p. 35] summarizes the examining volume in 1966-67 and the percent passing at the 7 ports which together accounted for 60 percent of all licensing activities for major deck and engineering officers.

Table I

	Deck Licenses			Engineering Licenses		
	No. of Cand.	Passed	Percentage	No. of Cand.	Passed	Percentage
New York	798	620	78	1080	976	90
New Orleans	300	234	78	247	203	82
San Francisco	268	191	71	384	300	78
Los Angeles	181	125	69	139	88	63
Seattle	178	145	81	64	50	78
Boston	115	66	57	218	114	52
Philadelphia	108	72	67	73	43	59
Total	1948	1453	74	2205	1774	80

It seems illogical that Boston had only a 57 percent pass rate for deck licenses while Seattle passed 81 percent of its deck applicants and that New York and New Orleans were close to this level, each with 78 percent passing. Similarly, on the engineering examination, Boston and Philadelphia had the lowest proportion passing 52 percent and 59 percent, respectively, while New York passed 90 percent and New Orleans passed 82 percent of its applicants. The cities with the high pass rates are those with a heavy concentration of coaching schools.

What Happens If An Applicant Fails?

When an applicant fails a Merchant Marine licensing examination, he is generally given an opportunity to review his papers in the subjects he has failed. Examiners are not supposed to reveal the correct answers. Nevertheless, when time permits, many examiners try to show candidates where they went wrong. However, when the workload is heavy, very little explaining can be done. One examining room supervisor expressed the view that a man has a right to know why he failed. There are also indications that licensing officials are concerned that a failing applicant may complain to his congressman. Preparing replies to such complaints can be very time-consuming. Examination personnel feel it is better to listen to complaints at the time a man fails than to contend with queries from a congressman later.

An applicant who fails must wait 30 days after the first failure and 30 more days after the second one. If he fails a third time, he must wait 6 months. He must repeat the entire examination each time. He receives no credit for the tests he has passed on a previous attempt. Many critics of the present system feel that this feature is inequitable and they have urged modification. One critic said that he knew of many men who have become discouraged and given up their efforts to obtain licenses because they could not face the strain of preparing for the full examination all over again.

What Happens To Minority Group Members?

The number of licensed deck and engineering officers from minority groups in the United States Merchant Marine is apparently very small. Precise data could not be obtained since no one, it seems, keeps records on licenses by race.

During visits to the United States Merchant Marine Academy at Kings Point, New York and the State University of New York Maritime College at Fort Schuyler, some Negro and Puerto Rican students were noted in various classes, but the numbers were small. The same thing may be said for minority representation in upgrading schools run by the unions and in the Apprentice Engineer Program conducted by the Marine Engineers' Beneficial Association. Although there were Negroes and Puerto Ricans, they constituted no more than 2 to 3 percent of the total enrollment.

While the apparent tokenism of minority representation in the marine officer training programs is to be deplored, one must recognize that there is little point in training men for careers in the Merchant Marine if discriminatory hiring practices deny them the opportunity to work after they have completed their training and obtained a license. Since the Coast Guard does not regulate training institutions or the hiring practices within the shipping industry, action by the Equal Employment Opportunity Commission will probably be required to open up employment for minority group members within the marine industry.

The plight of the Negro Merchant Marine officer is dramatically illustrated by the obituary notice which appeared in The New York Times on January 31, 1971, on the death of Captain Hugh N. Mulzac, the first Negro to become the master of a ship in the United States Merchant Marine. Captain Mulzac was a graduate of the Swansea Nautical College in Great Britain. He served as a deck officer aboard British ships during World War I. In 1918, he became a citizen of the United States and shortly thereafter earned his master's license with a near perfect score on the examination. Nonetheless, he was unable to get any type of deck job aboard an American merchant ship. "The years from 1922 to 1936 were the most miserable in my life," he wrote in his autobiography. "Though I was assured of reasonably steady employment (mostly as a steward) I did not find $60 a month enough to keep four hungry little Mulzacs clothed, shod, and with full little bellies..." According to the Times, "Things took a better turn after 1936 when Mulzac moved up to chief cook, in which capacity he took 7 world trips on the President Polk...In the meantime, he campaigned relentlessly by himself and through the National Maritime Union and the National Organization of Master Mates and Pilots for a captain's berth. After 20 years, his efforts were rewarded. In 1942, at the age of 56, he became the skipper of a liberty ship the Booker T. Washington. With an integrated crew, he sailed on 22 round trips over a 5-year period. His crew represented 17 nationalities, with about 25 percent of them Negroes, including the chief engineer, 4 deck officers, and the wireless operator. He selected his own men after an argument with the War Shipping Administration of the Maritime Commission." The Times observed, "Despite Captain Mulzac's historic breaching of the racial barrier, few Negroes have since served as masters of American merchantmen."

It was not the lack of a license that kept Mulzac from a position of command; rather it was the discriminatory employment policies of shipping companies which prevented this highly qualified mariner from pursuing his career. He was given his first command

20 years after he had taken his licensing examination. There is no mention of his having been reexamined; thus we must assume that Mulzac had kept his master's papers in force by renewing them periodically. Evidently, he had not lost his skills during the elapsed period because his record as master of the Booker T. Washington was exemplary. However, from the viewpoint of the public interest, it seems highly questionable whether it is prudent to allow any individual to take responsibility for a ship and its crew after a period of 20 years away from the bridge. If the purpose of licensing is to protect life and property, that goal is poorly served if someone who has not maintained his skills is allowed to function under the protective cover of a valid license which the individual may no longer merit.

OVER-THE-ROAD DRIVERS

Drivers of large transport trailers, moving vans, intercity buses, and similar vehicles are regulated by the Bureau of Motor Carrier Safety within the Federal Highway Administration. While the bureau sets standards and prepares the tests used in the certification process, the actual responsibility for implementing the regulations rests with the employing motor carrier.

A minimum prerequisite for a driver of an over-the-road vehicle is a valid driver's license issued by the state in which he resides. The Bureau of Motor Carrier Safety requires that a driver be at least 21 years of age and that he is able to read, write, and speak the English language. He must also show at least one year of driving experience, including driving of his personal automobile, in all four seasons. He must furnish his potential employer with details of his past employment on a Bureau of Motor Carrier Safety form. This form covers data about his motor vehicle experience and any motor vehicle violations and accidents he may have had. The motor carrier is charged with the responsibility of inquiring into the applicant's driving record during the preceding 3 years. He must also pass a physical examination whose standards are set by the bureau. Any physical impairment that would hinder an applicant's driving ability or create a safety hazard is grounds for disqualification. A history of drug use or alcoholism is also grounds for disqualification.

The applicant must demonstrate to the motor carrier that he has had the experience and/or training necessary to operate the type of vehicle to which he will be assigned. The carrier must establish that the applicant understands the principles of cargo handling, including the location and distribution of cargo aboard the vehicle and proper methods of blocking, bracing, and securing the cargo.

Before he is given a road test, an applicant must take a written examination covering safety regulations. The test consists of 30 questions which are obtained from a longer list published by the Bureau of Motor Carrier Safety. The examination is administered and scored by the employing carrier. Until recently, a passing score of 70 percent was required. However, the Equal Employment Opportunity Commission has barred the disqualification of any applicant on the basis of the written test. The commission will not permit the use of the written test until the bureau is able to demonstrate that there is a direct relationship between knowledge of safety regulations as measured by the test and success on the job. The bureau has contracted with an outside testing organization to develop new forms of the examination and to conduct validation studies to overcome the objections of the commission.

After an applicant has taken the Bureau of Motor Carrier Safety's written test, he must take a road test in the type of vehicle his prospective employer intends to assign him. The road test is administered and evaluated by the employing carrier according to guidelines provided by the bureau. The guidelines cover a minimum list of operations that the applicant must perform satisfactorily in order to be certified.

If he passes the road test, the carrier issues a certificate on behalf of the bureau. This certificate will generally be honored by another carrier as long as the driver continues to operate the same type of vehicle as the one on which he was road-tested. However, any carrier has the option of requiring an applicant to take another road test before employment.

It seems obvious that the certification program for over-the-road drivers is an extremely weak one, fraught with possibilities for abuse and offering little in the way of real protection for the public. The procedures used are those that any prudent employer would use prior to entrusting a new employee with a vehicle and cargo representing an investment of tens of thousands of dollars. The underlying assumption appears to be that if the carrier is satisfied with the applicant's qualifications, the regulatory agency is also. But what if a carrier is hard-pressed for drivers to keep his equipment moving on the road? What if he is desperate for drivers in order to meet his contractual obligations? Is it possible, perhaps even likely, that a carrier may relax the bureau's standards in order to employ a marginal applicant? The driver may be willing to take the chance, but is it in the public interest, as far as safety is concerned, to allow him to do so? In case of a serious accident, the carrier's losses are no doubt covered by insurance. But what about the pain, suffering, and even death that may befall the innocent victims of an accident?

On the basis of information obtained from reliable sources, it would seem that the licensing of over-the-road drivers is one federal program which should receive careful scrutiny and a thorough overhaul as soon as possible. The claim that an industry-administered program of this nature is capable of protecting the public needs reexamination. The Bureau of Motor Carrier Safety would do well to review what the Federal Aviation Administration and the United States Coast Guard are doing to insure that the candidates they license possess at least the minimum qualifications to perform their duties safely. Despite their shortcomings, both of these programs are aimed at objective assessment of each applicant. In neither case is the licensing decision left to an employer who may have a vested interest in its outcome.

HOPEFUL SIGNS OF CHANGE

In the certification of aviation mechanics, the entire process of training and examinations was transformed almost overnight as the result of David Allen's study [2] of the technical knowledge and manipulative skills required by aviation mechanics. In carrying out his survey, Allen had the full cooperation of the industry—of the companies that employ mechanics and of the 60 major institutions involved in training them.

The F.A.A. has used the results of the Allen study to overhaul its curriculum requirements in such a way that they are now closely tied to job requirements. New training materials have also been developed and they, too, are keyed to the requirements. The examinations have been modernized so that the questions closely parallel the training requirements. Procedures have been developed for keeping the pool of questions up to date. All items are subjected to tryout and review by instructors in training institutions before they are used in operational examinations. After questions are used, they are subjected to careful statistical analysis. A useful feedback system has been devised by which applicants are informed about their areas of weakness and training institutions are advised of topics which students failed.

While the F.A.A. system may not be ideal, it does stand as a good example of how effectively change can be introduced into a licensing system when the authority for instituting change is centered in the federal government. It is difficult to imagine a comparable amount of change occurring in less than 5 years if the implementation of new procedures had to wait upon the action of 50 state legislatures or on the whim of thousands of municipalities.

The deplorable state of licensing in the Merchant Marine field and the woefully inadequate program for over-the-road drivers attest to the fact that federal involvement in licensing provides no assurance that the licensing will be of a high quality. The vested interests, including unions and shipping companies, working through certain congressmen, have been at least partially responsible for the chaotic state of licensing in the maritime field. In all likelihood, similar pressures from the motor carrier industry are responsible for its weak program.

In the case of the Coast Guard, at least, there are hopeful signs of change. In 1968, the Coast Guard sponsored a study of the procedures used for licensing deck and engineering officers in the United States Merchant Marine.[29] The report, together with 15 recommendations for change, was submitted in February 1969. Some of the recommendations were short-term; others, long-term. By May of 1969, the Coast Guard had decided to overhaul its examination procedures in line with the various recommendations. It was decided to replace the essay examinations with centrally-prepared objective examinations and to establish standard testing conditions at all examining centers. A key recommendation was that committees, with representation from the maritime industry, the maritime unions, and the maritime educational institutions, be appointed to assist in developing examinations that would reflect the minimum requirements for safe operation of vessels in the modern Merchant Marine. This represented a significant departure from past practice. Never before had unions, industry, or training institutions had a voice in planning and preparing the licensing examinations; the entire operation had been centered in Coast Guard headquarters.

The development of specifications for the new Merchant Marine examinations took almost a year. Numerous task force meetings were held; tentative specifications were developed, reviewed, modified, debated, further modified, and finally adopted as a basis for developing new examinations for the lower grades: third mate, second mate, third-assistant engineer, and second-assistant engineer. No agreement could be reached regarding specifications for the higher-level licensing examinations and development of these tests has been deferred. The specifications that did emerge have the support of all segments of the industry, and it is very probable that the new examination program will enjoy similar support. At the present time, a large force of item writers from various segments of the industry is developing test items which will be used to replace the essay questions now being used for licensing purposes. The new examinations are scheduled to become operational in 1973.

The Coast Guard has also taken steps to implement the recommendation that high-fidelity simulators be developed to test the performance of applicants in the use of anti-collision radar equipment and their ability to respond to emergency traffic situations in accordance with the rules of the road. Proposals for a simulator have been solicited from major aerospace companies, and it is anticipated that prototype simulators will be developed within the next few years.

VI

HOW GOOD ARE LICENSING TESTS?

If protection of the public interest is the cornerstone on which the edifice of occupational licensing rests, the tests used to determine competency are clearly one of the main pillars that support the structure itself. To the public, to legislators, to workers in occupations which are licensed, and to licensing board members themselves, the test is the objective standard that separates the competent practitioner from the one who may not be trusted to function properly and safely.

The faith of the public in testing has been reinforced by the recent tremendous growth in the use of tests in many sectors of American life. Despite critical articles and books that appear from time to time, most people have come to believe in the value of tests because so many institutions in our society find them useful in decision-making. Colleges require tests of applicants for admission; the military gives tests for classifying recruits; industry uses tests for selection and placement; and competitive examinations often play a decisive role in selecting applicants for civil service positions. The results of statistical studies have been widely reported to demonstrate the effectiveness of tests in selection and placement of students and job applicants.

Much of the mystique that surrounds licensing stems from the fact that examinations are part of a seeming ritual which is conducted with great secrecy. Seldom does anyone other than a candidate have an opportunity to examine the tests used to select employees or to determine occupational competency. The quality of the examinations and their objectivity are taken for granted, especially when the testing is done under public auspices. In the case of licensing, a state or local legislature has usually decreed that licensing of a given occupation is necessary to protect the public. Is it not logical, therefore, to assume that the legislature has taken all necessary steps to ensure that the full resources of the state will be made available to each licensing board so that the examinations will be of the highest possible quality? This seemingly logical assumption is open to serious challenge. Legislative bodies have apparently done little toward setting standards regarding the quality of licensing examinations or toward making adequate resources available to get the job done properly. The quality of testing found in many occupational licensing programs is so low that one wonders how the revolution in testing—especially the advances in technology that have been made since World War II—could have managed to bypass so completely the field of occupational licensing. Perhaps the answer lies in the fact that the legislation creating licensing boards usually specified that they should consist primarily of practitioners from the occupation concerned. Board members would be expected to have considerable knowledge and experience in the occupation involved but would not be likely to know much about testing. In all likelihood, newly-created boards looked to existing boards for guidance in all aspects of their operations, including testing. The fact that the older, established boards lacked testing expertise was probably no deterrent. A poor model was better than no model at all. Any board which had been functioning for a number of years would probably have been perceived as a good example by any beginning group.

Few licensing boards appear to have made any use of consultants. This may have stemmed in part from the wording of the legislation establishing each program, since it was frequently stated explicitly that the board "shall prepare and administer" the examination. Taken literally, this can be interpreted to mean that each board had to execute the testing function completely on its own, without involving outsiders.

Of the boards studied, a large majority were using outmoded procedures in both their written and their performance tests. An analysis of some of the more obvious shortcomings follows.

WRITTEN TESTS

A number of inadequacies relating to the written portions of licensing examinations were uncovered.

Lack of Planning: Few licensing boards seemed to be aware of the necessity for planning a test carefully in order to insure balanced, comprehensive coverage of the field to be tested. Those which did use outlines usually indicated only the broad categories on which there would be questions. The outlines seldom specified the depth of knowledge or skill an individual should possess in each area or the amount of weight which should be allocated to each topic. Little thought seems to have been given to matters such as the relative emphasis to be placed on recall of facts, understanding of principles, and the ability to apply facts and principles in problem-solving.

Failure to use an adequate blueprint to guide test development leaves a great deal to chance. There is little assurance that a test given to one group of applicants will be comparable in coverage to that given to another group of applicants.

Over Reliance on Essay Tests: Many state and local boards continue to show a strong preference for essay tests and questions that call for short written answers rather than for multiple-choice questions. The primary attraction in using the type of question which calls for written responses is probably the presumed ease with which such questions can be written. In reality, the task is more complex than it appears to be on the surface. Considerable skill is needed to prepare essay questions which are at once penetrating and without technical flaws. There are several drawbacks to essay tests. One is that the questions are often ambiguous. The candidate is not sure precisely what is wanted or how much detail is desired. Another drawback is the time needed to respond; time limitations usually restrict the number of questions that can be asked. A test will often have no more than 5 or 10 questions. This limited number seldom permits comprehensive coverage of the field in question. As a result, each question carries a very heavy weight—possibly more than it should. A third drawback is the problems encountered in grading essay questions. Experience has shown that when essay questions are graded independently by several readers, the scores often differ markedly. This occurs because the readers generally lack adequately detailed criteria as to what constitutes an acceptable answer. These difficulties could be overcome by preparing grading standards and by training readers in their use. Licensing boards seem to be generally insensitive to such problems.

Poor Quality Multiple-choice Questions: Many licensing boards have become aware of the advantages of using multiple-choice questions. They recognize that since such questions can be answered more quickly than essay questions, it is possible to achieve a more comprehensive coverage than is usually possible with essay tests. They also recognize that multiple-choice questions are easier to score and that the grading can be done more reliably than with essay questions.

Many boards have discovered, however, that good multiple-choice questions are not easy to write. Some have been so discouraged at their attempts in writing items that they have turned to commercially prepared review books. This trend is especially evident in the fields of cosmetology and barbering, where review books are widely used as a source of items. Although a number of different item-types appear in the books, the majority are of the multiple-choice variety. The quality of the questions is generally poor by professional testing standards. Most of the questions are closely related in wording to material found in the textbooks; thus they place heavy emphasis on the recall of facts. By making use of review books as a source of questions, licensing boards play directly into the hands of the publishers. Barber and beauty schools feel compelled to use the textbooks because they are the basis for the questions. They are likely to drill students on the material found in the review books, not because they feel the knowledge involved is important or vital, but because questions dealing with this material are likely to be on the licensing examinations. Perhaps without realizing it, licensing boards that build their tests from review books are encouraging students to memorize isolated bits of information rather than to integrate knowledge in such a way that it will help them to deal effectively with problems they are likely to encounter on the job.

The licensing boards that attempt to write their own objective-type questions often encounter difficulty with the multiple-choice format. There are many common pitfalls in writing multiple-choice questions which board members may not anticipate. The phrasing of a question may lend itself to more than one interpretation; an item may really be several questions in one; the right answer may be correctly identified from clues gained solely from the wording of the question; there may be more than one correct answer; or one of the supposedly wrong answers may be so close to being correct that the question may be perceived as a trick question. These and other common pitfalls may be overcome by adequate training of item-writers and reviewers.

Failure to Analyze Results: One of the ways in which testing experts identify good questions and poor questions is through a process known as item analysis. This technique can reveal which questions may have been too hard or too easy for the group tested and can differentiate those questions which were answered correctly by those who earned high scores on the examination as a whole from those which were missed by many high-scoring candidates. The process involves examining any questions that the high-scoring candidates failed to answer correctly, especially if the item was answered correctly by many of those who earned low scores. Upon close inspection, such a question may be discovered to be defective.

In addition to being used to identify defective questions, the results of an item analysis can be employed to improve a question so that it will function better the next time it is used. The information obtained from item analysis can also be helpful in constructing future examinations in such a way that they will be comparable in difficulty. Without access to data about the proportion that pass or fail each question, it is possible for a board to give an easy examination at one administration and a very difficult one at another. This is obviously unfair to the applicants who get the more difficult examination.

Testing experts usually analyze an examination as a whole to determine its reliability. A good test should measure knowledge and skill in a consistent way so that a person who scores high on one form of the test would be likely to score about as high if he were to take another form of the test at a different time. Few licensing boards would think of using a yardstick that gave them a different reading each time it was applied; yet these same groups seem to be willing to use tests without even investigating whether or not the results yielded are consistent.

PERFORMANCE TESTS

Many licensing boards recognize the value of using performance tests in judging an applicant's competency. However, the results obtained from practical testing may be unreliable or misleading because of what is included on the test, the way in which the test is given, or the way in which performance is evaluated.

Failure to Sample Crucial Skills Adequately: Performance tests are usually job related; in fact, most are miniature job samples. Great care must be exercised in selecting the tasks to be included. The tasks should sample the significant skills called for by the job. Not all skills can be tested, but the most important ones should be. It is unfortunate that some boards are inclined to select very difficult, or even esoteric tasks rather than those that are relevant to demonstrating skills and knowledge. Much criticism has been directed at plumbing boards for continuing to place undue emphasis on the examinee's ability to join two pieces of lead pipe using a particular method. This skill was at one time the mark of a true craftsman, but replacement of lead pipe by copper pipe and the prefabrication of lead joints has long since relegated the task of making a "lead wipe joint" to a far less important position than it once enjoyed. Yet the joining of two pieces of lead pipe continues to be the sole performance task in plumbing in a number of communities; it is, therefore, automatically assigned a weight that bears no relationship to modern plumbing practice.

Lack of Standardized Procedures: In addition to choosing critical performance tasks, licensing boards need to develop standardized procedures for administering them and for evaluating the results. Candidates should be advised as to precisely what they will be expected to do, as to how their performance will be evaluated and graded, and as to whether the time utilized to complete the task or only the quality of the end product is to be considered. Many boards neglect to provide the candidate with this information as a routine matter. Some examiners provide answers, if asked, but lack of adequate communication tends to penalize the less aggressive candiate.

Lack of Adequate Criteria for Evaluating Performance: The most serious shortcoming of performance tests used in licensing examinations is the lack of adequate criteria or standards for evaluating performance. Raters need clear and specific directions as to what they are to look for, what constitutes acceptable performance on a given task, and how much credit should be deducted for failure to satisfy the criteria in specified ways. Without guidelines, each rater is forced to use subjective measures that are based on his own experience and standards. Depending on his past experiences and expectations, these could be unrealistically high or low. Yet some licensing boards use only one rater to observe applicants and call in a second rater only to check a candidate who has been judged either a failure or a borderline case by the first rater.

WHAT CAN BE DONE TO IMPROVE THE SITUATION?

The many shortcomings found in licensing examinations have been emphasized in order to underscore the point that most boards are poorly equipped to carry out their testing responsibilities. It is regrettable that more of the boards involved have not recognized the complexity of their evaluation task and sought assistance from outside sources. Criticism for failure to insure that tests used for licensing are of high professional quality should probably be directed at those officials who are administratively responsible for state and local licensing programs. One might expect these officials to be more aware than individual board members of the resources available within other departments of government or from state universities. One might have hoped that their broader perspective would have enabled them to realize the benefits that could be derived by employing testing consultants to work with the licensing boards and assist them in improving test procedures. However, administrative officials are products of a culture that tends to regard tests as something that any knowledgeable person should be able to prepare without any special training or assistance. It is small wonder that so few have endeavored to do anything about the problem. As far as the officials were concerned, there was no problem. What, then, can be done to help boards upgrade the quality of licensing examinations?

Use of National Examinations: Boards should make use of national examination programs where they exist and support the establishment of new national programs in areas where they do not. There are a number of extant models which show how national programs can be established on a voluntary basis under the auspices of relevant professional associations.

In nursing, the catalyst for interstate cooperation has been the National League for Nursing. Today, nursing boards in all 50 states make use of examinations prepared by the professional staff of this organization. Board members from various states and nursing educators continue to be deeply involved in preparing the test blueprint, writing and reviewing questions, and administering the tests under secure conditions.

The same group that conducts a national certification program for dentists also provides professionally prepared examinations for dental hygienists. The tests are prepared with the assistance of dental educators from all parts of the country and are administered on a nationwide basis. Licensing boards in 44 states now accept scores on the National Dental Board Examinations for purposes of licensing dental hygienists.

The National Council of Engineering Examiners prepares comprehensive tests not only for professional engineers but for engineers-in-training. The National Board of Medical Examiners, in addition to preparing tests for aspirant physicians is now in the process of developing a national examination for the new specialty of physician's assistant.

Formation of a Consortium to Cooperate in Developing Tests: A second means of achieving improved examination programs is through the formation of a consortium of several states to collaborate in the development of tests in fields where no national programs currently exist. By pooling their resources and making use of qualified testing specialists, the cooperating agencies are likely to obtain tests that are superior to those they might have developed on their own with a comparable expenditure of funds.

Sometimes a group of states is able to persuade a national testing organization to assist them in establishing a regional testing program. In 1971, five states joined together and agreed to use a common examination for licensing real estate brokers. This program is now spreading to other sections of the country and may eventually become a national program.

In 1969 the National Interstate Council of State Boards of Cosmetology made arrangements with a professional testing organization to assist it in establishing a national licensing program that would make use of a common examination. Fifteen states agreed to participate. During the first year, between 15,000 and 20,000 candidates were tested, and there are indications that the number of participating states will increase rapidly.

Not only has this approach given the states examinations that are superior to those most of them had been using, but the use of a common examination has provided them with a practical way of facilitating reciprocity with other states. Eight of the 15 currently participating states have agreed to accept the score obtained on the national examination as a focal point for reciprocal agreements regardless of the number of hours each state requires for licensure.

Establishment of a State-level Consulting Unit: Where a cooperative effort among several states is not possible, a consulting unit can be created within a state licensing agency and can work with individual boards on the improvement of their examinations and procedures. Specialists from the central consulting unit can conduct training programs for board members to help them develop a greater awareness of what constitutes a good test and of ways in which they can improve their test-making skills. The training program might cover such topics as planning an examination, writing and reviewing questions, interpreting item analysis data, and preparing rating forms for performance tests.

Numerous clerical tasks are associated with the administration of a testing program. A central consulting and service unit could assume many of these chores, including scoring of tests, conducting item analysis studies, and preparing candidate rosters. In time, a close working relationship developed between board members and testing specialists should result in a higher level of sophistication in testing matters on the part of board members and in tests of higher quality than prevailed before institution of the consulting unit.

DISCRIMINATION IN TESTING

Title VII of the Civil Rights Act of 1964 prohibited private employers from utilizing tests or other procedures that discriminated unfairly against members of minority groups, including women. Governmental agencies were specifically excluded. However, in March 1972, Congress enacted the Equal Employment Opportunity Act of 1972 which amended the 1964 law to include governments, governmental agencies, and political subdivisions. Since the new law appears to have many implications for licensing agencies, it might be worthwhile to review how the original law has been applied in the private sector and what impact its application might have on the field of licensing.

The Civil Rights Act of 1964 states, "It shall be unlawful employment practice for an employer to limit, to segregate, or to classify people in any way which would deprive or tend to deprive an individual of any employment opportunities or adversely affect his status as an employee, because of his race, color, religion, sex, or national origin." While this section does not bar the use of tests, it is clear that it was the intent of Congress to prohibit the use of tests that discriminate unfairly against minority groups in virtually all types of employment situations.

The responsibility for implementing the intent of Congress was placed in the hands of two agencies—the Office of Federal Contract Compliance (O.F.C.C.) in the Department of Labor and the Equal Employment Opportunities Commission (E.E.O.C.). Both of these agencies have issued guidelines relating to the use of tests in employment situations. The O.F.C.C. guidelines are binding on all federal contractors, while those of the E.E.O.C. apply to all other types of nonpublic employers. The Department of Labor has recently issued guidelines which deal with apprenticeship selection. The United States Civil Service Commission has also issued regulations that provide for administrative review of appeals or allegations of bias in employment.

In the sense that licensing boards function as gatekeepers by establishing occupational standards and requiring the passing of examinations, they can have a crucial effect on an individual's employment. The employer who discriminates against an individual may deprive him of a job in a particular company, but the individual may be able to secure employment with another organization. However, a licensing board can exclude an individual totally from working in the occupation for which he has been trained. The social and legal pressures that have heretofore been placed on private employers to use fair employment practices may now be expected to be exerted with equal or greater force on licensing boards and other public agencies. For this reason, members of licensing boards should be familiarizing themselves with the provisions of the E.E.O.C. guidelines, which appeared in the Federal Register in August of 1970. [14]

As defined in the guidelines, the term "test" refers to "any paper-and-pencil or performance measure used as a basis for any employment decision." The guidelines apply to ability tests designed to measure eligibility for hiring, transfer, promotion, membership, training, referral, or retention. The definition includes, but is not restricted to, "measures of general intelligence, mental ability, and learning ability; specific intellectual abilities; mechanical, clerical, and other aptitudes; dexterity and coordination; *knowledge and proficiency* (italics added); occupational and other interests; attitude."

As far as discrimination is concerned, the guidelines state that "the use of any test which adversely affects hiring, promotion, transfer, or any other employment or *membership opportunity* (italics added) of classes protected by Title VII constitutes discrimination unless a) the test has been validated and evidences a high degree of utility as hereinafter described and b) the person giving or acting upon the results of the particular test can demonstrate that alternative suitable hiring, transfer, or promotion procedures are unavailable for his use."

Anyone using tests to select from among candidates must have available for inspection evidence that the tests are being used in a way that does not violate the definition of discrimination just given. Such evidence is to be examined for indications of possible discrimination, such as instances of higher rejection rates for minority candidates than for non-minority candidates. Any differential rejection rate based on a test "must be relevant to performance on the jobs in question."

Evidence of a test's validity "should consist of empirical data demonstrating that the test is predictive of or significantly correlated with important elements of work behavior which comprise or are relevant to the jobs for which candidates are being evaluated. Empirical evidence in support of a test's validity must be based on studies employing generally accepted procedures, such as those described in Standards for Educational and Psychological Tests and Manuals, published by the

American Psychological Association. However, evidence for content or construct validity should be accompanied by sufficient information from job analyses to demonstrate the relevance of the content (in the case of job knowledge or proficiency tests) or the construct (in the case of trait measures)."

The following minimum standards, excerpted from the E.E.O.C. guidelines specify the conditions that must be met in designing the research approach and in presenting evidence of test validity:

1. Where a validity study is conducted in which tests are administered, with criterion data collected later, the sample of subjects must be representative of the normal typical candidate group for the job in question. Where tests are administered to present employees, the sample must be representative of minority groups included in the applicant population.
2. Tests must be administered and scored with proper safeguards to protect the security of scores and to insure that scores do not enter into any judgments of employee adequacy that are to be used as criterion measures. Tests or manuals privately developed and not available through normal commercial channels must be included as part of the validation evidence.
3. Work behaviors or other criteria of employee adequacy which the test is intended to predict or identify must be fully described. Such criteria may include measures other than actual work proficiency such as training time, supervisory ratings, and regularity of attendance and tenure, but 'must represent major or critical work behaviors as revealed by careful analyses.'

4. Supervisor rating techniques should be carefully developed and ratings closely examined for evidence of bias. Care must be taken so that minorities do not obtain unfairly low performance scores for reasons other than supervisors' prejudice, such as having had less opportunity to learn job skills.
5. Data must be generated and results separately reported for minority and non-minority groups whenever technically feasible.

Results of a validation study including graphical and statistical representations of the relationship between the test and criteria which permit judgments of the test's utility in making predictions of future work behavior must be presented. Average scores must be reported for all relevant subgroups, including minority and non-minority groups where differential validation is required.

The guidelines stipulate further that, "Under no circumstances will the general reputation of a test, its author, or its publisher, or casual reports of test utility be accepted in lieu of evidence of validity."

The guidelines were intended for the typical employment situation; that is, where a single employer hires a group of people and is able to obtain feedback from supervisors as to the quality of their work. However, the licensing situation is quite different. Individuals are licensed by a board, but once licensed they work for different employers—possibly in widely scattered locations. Any board that seeks to validate its tests by following up on the performance of each licensee faces a formidable task. It would seem that the type of validity evidence called for under the E.E.O.C. guidelines might be difficult to obtain in the licensing situation. In all likelihood, the enforcement agency would have to be satisfied with content validity; that is, with evidence that the tests measure significant, job-related skills. It would probably be necessary to prove that these were derived from a careful job analysis and that they applied to all classes of workers within a given field.

A problem is likely to arise with respect to the requirement that the validity of all tests be shown on a differential basis; that is, that results be presented separately for minority groups. Some states have laws which prohibit the identification of individuals by race, color, or national origin. Would licensing officials be expected to disregard these laws and attempt to collect data about each individual's minority or majority status? Those who have attempted to devise techniques for identifying minority status from indirect evidence such as appearances or surnames readily acknowledge that such methods are not precise.

What has been the attitude of the courts with respect to the application of the E.E.O.C. and O.F.C.C. guidelines? The most significant case reported thus far is the Duke Power Company Case.[13] In this instance, the United States Supreme Court ruled that certain practices carried on by the Duke Power Company were illegal.

The company had imposed certain educational qualifications as a condition for promotion to higher level jobs. Later, the company introduced tests as a substitute for the educational requirement. The Court found that the educational qualifications and the tests did, in fact, operate to discriminate against Negroes. The company was ordered to stop using the tests or enforcing the educational standard. Although this decision was directed against the improper use of tests, it is important to recognize that the Supreme Court did not outlaw the use of all tests. It stated that tests must be job-related and properly used.

In its opinion, the Court noted the dangers of using tests, diplomas, or degrees "as fixed measures of capability." The decision continued, "History is filled with examples of men and women who rendered highly effective performance without the usual badges of accomplishment in terms of certificates, diplomas, or degrees." Further, "Diplomas and tests are useful servants, but Congress has mandated the common-sense proposition that they are not to become masters of reality." These observations could have important implications for licensing programs, because credentials from educational institutions are frequently specified as one of the requirements for licensure. It could be that the courts may someday declare that alternatives to institutional certification--such as demonstrated competency on the job or on a proficiency test—must be accepted in lieu of stipulated amounts of formal training.

The major thrust of the Supreme Court's decision seems to be the emphasis placed on the ability of the individual to do the job rather than on preconditions that may not be directly related to job success. The Court said, "Nothing in the Act precludes the use of testing or measuring procedures. Congress has not recommended that the less qualified be preferred over the better qualified simply because of minority origins. Far from disparaging job qualifications as such, Congress has made these qualifications the controlling factor, so that race, religion, nationality, and sex are irrelevant. What Congress has considered is that any tests used must measure the person in the job and not the person in the abstract."

Another important court decision currently in litigation relates to the licensure of school supervisory personnel such as principals and assistant principals. The United States District Court for the Southern District of New York found that the examinations used by the Board of Examiners of the City of New York had the "de facto effect of discriminating significantly and substantially against Negro and Puerto Rican applicants." [6] The Court noted that despite the fact that all applicants had previously satisfied the prerequisites of education and experience established by the Board of Education of the city of New York and had been previously certified by the state of New York for the positions sought, "A survey of the examination taken by 5,910 applicants (of whom 818 were Negro or Puerto Rican) reveals that white candidates received passing grades at almost one and a half times the rate of the other group; and on one important examination given in 1968 for the position of assistant principal, junior high school, white candidates passed at almost double the rate of Negro and Puerto Rican candidates. The discriminatory effect of the latter case is aggravated because the assistant principalship has traditionally been an essential prerequisite for the more important supervisory position of the principal." The Court also observed that only 1.4 percent of the principals and 7.2 percent of the assistant principals in New York City schools are Negro or Puerto Rican. These percentages are far below those for the same positions in the next four largest city school systems in the United States. The percentage of Negro and Puerto Rican principals in Detroit and in Philadelphia is 16.7 or 12 times as high as that in New York City. The United States District Court decision goes on to say:

> Such a discriminatory input is constitutionally suspect and places the burden on the Board to show that the examinations can be justified as necessary to obtain principals, assistant principals, and supervisors possessing the skills and qualifications required for successful performance of the duties of these positions. The Board has failed to meet this burden. Although it has taken some steps toward screening content and predictive validity for the examinations and has been improving the tests during the past two years, the Board has not in practice achieved the goal of constructing examination procedures that are truly job related. Many objectionable features remain. A study of the written examinations reveals that major portions of them call simply for regurgitation of memorized material. Furthermore, the end examination procedure leaves open the question of whether the white candidates are being favored—albeit unconsciously—by the committee of examination assistants who have been entirely or predominantly white.

The New York Court issued a preliminary injunction restraining the Board of Examiners from conducting further examinations of the type found to be unconstitutionally discriminating against Negroes and Puerto Ricans and from promulgating eligible lists on the basis of such examination procedures. This decision was subsequently upheld by a higher court. The tenor of the Court's conclusion should cause licensing agencies everywhere to give serious thought to the whole matter of testing and to take constructive steps toward averting a court challenge before it is too late.

Albert Maslow, Chief of the Personnel Measurement Research and Development Center, United States Civil Service Commission, offered the following advice to a group of state licensing officials attending the 1971 meeting of the Council on Occupational Licensing:

> I am convinced that we need to sharpen our ability to develop and demonstrate the rational relationship between the job requirements and the measurement system used to certify or qualify people for an occupation. A number of techniques are available to improve the process of job analysis to get a much more exact fix on the critical requirements for the work to be done. I would urge, therefore, that, especially in examinations for occupational knowledge and proficiency, you insist, at the very least, on a clear-cut showing of how one proceeds from the decision as to the skills and abilities required for effective performance to the decision that certain tests or other measures will ensure that the applicant can adequately perform in that occupation. The entire decision-making process, from setting minimum standards to making a final certification on the basis of appraisal data, must be very carefully analyzed step by step to make sure that it does not inadvertently lock out certain segments of our population.[18]

Maslow does not feel that it is necessary to use the same measures for every applicant for licensure:

> In our work with federal staffing systems...we allow the measurement to fit the individual. People train to a point of occupational entry by different routes. Thus, it makes sense to use alternate but equally appropriate and relevant evaluation methods. For example, an individual who has come up through a formal training discipline, where we feel confident about the quality of training, can be examined on his training record. An individual who has come up through an experience discipline, not organized training, can be evaluated on that basis. An individual who has done neither of these, but might have gained knowledge in a variety of ways, can be asked to demonstrate his knowledge through a test. So, in licensing, it is conceivable that by providing alternate examining methods you could better serve all applicants, and be less susceptible to charges of inadvertent locking-out of some of them.[18]

While the full impact of the Equal Employment Opportunity Act of 1972 on licensing agencies cannot be predicted with any degree of certainty, there can be little doubt that the entire field of licensing is on the threshold of a new day. The procedures that have gone unchallenged for decades are now likely to come under the scrutiny of the E.E.O.C. and the courts. It would behoove licensing officials to begin now to reexamine all aspects of their operations to determine whether they conform in letter and spirit to the E.E.O.C. guidelines and to recent court decisions. By taking timely action to institute needed reforms, licensing agencies may be able to avoid costly and time-consuming legal action. Those that decide to adopt a wait-and-see attitude may find themselves under court order to suspend their operations until procedures acceptable to the court are instituted.

VII

STRATEGIES FOR CHANGE

Occupational licensing is an institution seemingly riddled with faults. Some readers may argue that the description of licensing made here is a caricature of reality and that no changes are needed because things are not really as bad as they have been made to appear. Others may advocate abandoning licensing altogether. Neither of these views is tenable. Until society devises alternative mechanisms, ways must be found to modify and improve the existing licensing structure so that, on the one hand, it serves its societal function in the most efficient and effective way possible and, on the other, it provides fair and equitable treatment to those whose livelihoods may depend on their being licensed.

One must start by recognizing that the whole institution of occupational licensing is embedded in a morass of federal, state, and local legislation suffused with tradition, custom, and jealously guarded rights. There are clearly no simple solutions. To bring about change would involve not only modifications of hundreds of state laws and local ordinances but also negotiations among dozens of occupational interest groups that have, over the years, managed to achieve some sort of delicate balance within the existing structure. The possibility of change, even relatively minor change, is likely to be perceived as a threat by those who gain not only prestige but also tangible economic benefits from the existing structure. Anyone contemplating change must consider not only its operational aspects, such as amending existing legislation or modifying procedures, but also its psychological aspects——the way people perceive or respond to the proposed changes. It is probably best to think of modifications in licensing as an ongoing process——a spiral moving upward from one level to the next——that will not necessarily be accomplished in one, two, or even five years.

Efforts to bring about needed changes must occur simultaneously on a number of fronts. Licensing boards themselves are a logical place to begin. There are a number of modifications that many licensing boards could initiate without new legislation. Where new legislation is needed, boards should take the initiative in seeking the necessary authorization. In light of the history and hidebound attitudes of many licensing boards, it is unrealistic to expect that they will all move quickly and vigorously to make necessary changes. Some boards are likely to dig in and resist all change until they are compelled to yield to a higher authority. Therefore, efforts to effect change should also proceed on the legislative front. Since virtually all licensing in the United States has its legal basis in state legislation, state legislatures need to examine what presently exists and in what ways the situation can be changed so that licensing fulfills its intended purposes. To assist legislators in studying occupational licensing, a number of crucial questions have been posed for investigation and some possible solutions that may help to overcome the problems that are implicit in these questions are offered.

Other groups also have a stake in licensing and these, too, have a role to play in the change process. Trade and professional associations and labor organizations are urged to avoid narrow partisanship and to support constructive change. There is a role for community groups that are involved in preparing applicants to take licensing examinations. The role of such groups is not so much one of seeking change as one of taking interim measures to protect the rights of applicants until procedural changes can be effected by modifications in licensing board regulations or by legislative action.

The national interest may well require the federal government to intercede in bringing about needed change. Most of the proposals which have been made for federal intervention support a licensing system which would remain under state control. However, should the states prove unwilling to act or incapable of eliminating abuses involving national manpower policies, there may be no alternative to the establishment of federal licensing and/or federal standards in certain fields.

It is within this broad framework that specific actions which should help to ameliorate many of the problems and conditions that have been identified in the course of this investigation are proposed. There must be no illusions about the resistance that those who seek change are likely to encounter. Most of the suggestions made here attempt to take account of the realities of the situation. They can be implemented within the existing structure if those in positions of authority are willing to recognize the need for change and to put the public interest ahead of the special interests which have for too long dominated occupational licensing. Those who have a stake in licensing would seem to have a choice between actively participating in the change process or passively standing by while change is thrust upon them. Failure to take steps to facilitate needed reform will only serve to invite an overhaul of licensing—possibly through drastic federal legislation. Those who believe that state and local governments are capable of dealing with significant human problems without federal intervention have a clear opportunity to put their beliefs to the test.

LICENSING BOARDS

There is much that licensing boards can do on their own initiative, without awaiting a legislative authorization or mandate. Boards may not be free to change requirements specified in a law or to alter a legislatively ordained fee structure, but such restrictions should not deter boards from undertaking such changes as are within the scope of their policy-making and administrative authority.

1. Improved Testing Procedures: The most glaring weakness in the present system of licensing professional and nonprofessional occupations is in the examination process itself. Board members have usually taken it upon themselves to develop and administer examinations without any training for the task and without outside help. The serious error involved can be rectified in several ways.

One way in which licensing boards can improve the quality of their examinations is to turn the job over to professionals in the testing field. This could be accomplished through the cooperative efforts of several states. The examination programs that have emerged in such fields as practical nursing, dental hygiene, and cosmetology illustrate what can be done when boards decide to share their testing responsibilities with agencies that are equipped to do the job at a highly professional level.

Even a national testing program provides no guarantee that the tests developed will be of high quality, but at best the existence of a national system makes excellence feasible. When it is not possible for a licensing board to participate in a national or regional testing program, the board should seek help from qualified testing specialists. These may often be found within various departments of the state government, such as the department of education; in the psychology departments of nearby colleges and universities; and in professional testing organizations.

What services could these experts render?

- Job Analysis: Testing experts could help licensing board members analyze each licensed occupation to isolate critical elements that need to be tested. They could help avoid testing irrelevant topics which do not involve the public interest.
- Test Specifications: They could help develop specifications which provide a blueprint to increase the likelihood that each form of a test will be built according to a definite plan and that all significant topics will be included.
- Item Writing: If board members are to write good test questions, they need training to develop item-writing skills. A training program run by experts would alert board members to

the common pitfalls that make questions ambiguous or that result in questions with more than one correct answer.

- Directions: Clear directions for administering written and performance tests are an essential part of a standardized test. A candidate should never be in doubt as to what is expected of him. Testing experts could provide guidance here.
- Scoring Procedures: Answer keys should be prepared in advance to facilitate accurate scoring of all tests. Some type of quality control should be instituted to insure that all tests are graded accurately. When performance tests are used, the performance standards should be clearly specified so that judges have clear guidelines for evaluating a candidate's work. All of these concerns lie within the province of the measurement specialist.
- Grading Standards: Experts can help licensing boards set realistic cutting scores for their examinations. Even where the minimum passing score is set by law, say at 70 or 75 percent, testing experts can give guidance in preparing test questions of a suitable difficulty so that the pre-established cutting score will be an appropriate one as far as safeguarding public safety is concerned.
- Item Analysis: Procedures should be established for

routinely analyzing all of the questions used on a test. Which ones proved to be too hard or too easy? Which ones failed to discriminate between the well prepared and the poorly prepared candidates? Defective questions can be identified through item analysis, and such information can be used to improve future examinations. Although simple procedures are available for item analysis, access to a computer greatly facilitates it.

- Test Analysis: Testing experts can assist licensing boards in analyzing the performance of each of their tests as a whole. The shape of the score distribution generated is germane to the purpose for which licensing tests are given; the difficulty of the test as a whole should be controlled; consistency in test difficulty from year to year should be maintained; and it is essential to compute some measure of test reliability in order to guarantee that applicants for licensure are being fairly treated.
- Validity Studies: Licensing boards should be able to demonstrate that there is a positive relationship between test results and job performance or that their tests are appropriately criterion-referenced. Carefully designed validity studies are needed to establish such a relationship. Failure to conduct such studies may result in costly litigation

and in the disruption of testing programs, if a board is asked to demonstrate that validity by a state Fair Employment Practices Commission or by the federal Equal Opportunity Commission. Testing experts can assist in all these areas.

2. More Convenient Testing Locations: Licensing boards should consider the costs incurred by applicants in traveling to a central point to take an examination. Is it necessary for hundreds of people to travel to a central point or could the examinations be given in a number of major cities, as is done in California and New York State? Obviously, if it is a choice between testing candidates in a specially equipped test center or one that is miserably equipped, the former should be used. However, it is not always necessary to make this choice. Facilities about as good as those used centrally by many licensing boards can often be rented locally or mobile testing units could be utilized. This would make taking examinations more convenient and less costly, especially in hairdressing when a candidate must pay for the travel and lodging of a model as well as for his own expenses.

3. Assistance for Those with Language Problems: Licensing boards should show greater sensitivity to the problems of applicants who have difficulties with the English language. In

many fields it should be possible for a qualified applicant who does not read or speak English to take an examination through an interpreter. There are also English-speaking individuals who have limited ability in reading and writing. Taking a written test represents a real hardship for such persons. It should be possible for these individuals to be examined by having the questions read to them and by having their answers either written down by someone else or recorded on tape. In many fields it should be possible to prepare written examinations in other commonly spoken languages, especially Spanish.

4. Dealing with Candidates Who Fail: Licensing boards often give little thought to the problems or to the rights of candidates who fail. Boards should be urged to consider the following modifications in their procedures:

- A board has an obligation to inform candidates about why they failed to measure up to expectations. This could be accomplished by including on the score report references to the specific areas in which the candidate performed poorly; as does the Federal Aviation Administration in reporting test results to aviation mechanics. This practice deserves to be adopted more widely. Face-to-face discussions between a representative of a licensing board and a failing candidate can also provide information regarding areas of weakness.

However, if an opportunity to review test papers is regularly offered, it should be made known to all candidates. Moreover, the board should make it as convenient as possible for a candidate to take advantage of this opportunity. If it is necessary to travel hundreds of miles for a discussion with a board official, relatively few candidates will be able to avail themselves of the opportunity. However, it should be possible to offer such a service on a decentralized basis, perhaps by arranging for board members to talk to candidates who live in their areas, or through scheduled visits of board representatives to the major cities in the state.

- When a candidate fails one part of a test, he should not be required to repeat the entire examination. He should be allowed to retake, within a reasonable period of time, that portion he missed and he should be granted a license as soon as he has passed all parts.
- There should be a well defined route of appeal for candidates who disagree with an answer key established by a licensing board. In a job economy, a candidate has a great deal at stake in the outcome of an examination and he deserves the same right of appeal as is afforded candidates for civil service examinations. This usually involves a

formal protest period during which candidates may state in writing why they think a question is defective or why they disagree with the keyed answer. In general, boards seem to discourage protests and candidates appear reluctant to challenge the board for fear of reprisals.

- A uniform policy should be established with regard to the fees charged for retaking a licensing examination after a failure. If at all possible, it is desirable to have the initial fee cover all retakes allowed by law. Otherwise, unrealistically high failure levels would be construed as disguised revenue-raising stratagems.

5. Review Boards: The state legislatures should create an occupational review board in each state. One function of such boards would be to expedite and adjudicate disputes between applicants and licensing boards as well as between practitioners and licensing boards. The existence of such an agency would do away with having the same board that prepared a test or that filed charges pass judgment on complaints against it. Until appeals boards begin functioning, licensing boards should adopt a more tolerant attitude toward applicants who feel that they have not been treated fairly. Well defined appeals procedures that incorporate mechanisms for correcting errors will go a long way toward reestablishing confidence in the fairness of licensing.

6. Improved Communications: In general, licensing boards do a poor job of communicating with applicants. Many boards do little more than send out copies of the relevant law in response to inquiries. Others provide information sheets that emphasize the legalistic aspects of licensing. Boards seldom make an effort to anticipate and answer the questions that applicants are most likely to ask.

Boards should prepare information booklets written in plain English—free of the "legalese" of the licensing law or of board regulations. In states where many applicants speak Spanish, the information booklet should be translated into Spanish to insure that all candidates understand licensing requirements and procedures. The booklet should include all the information that an applicant needs to know, including:

- The requirements for licensure
- Instructions for completing the application form
- Information about fees
- Examination procedures—when and where examinations are held, directions for getting to the testing center, and what to bring
- A suggested reading list indicating which references an applicant is likely to find most useful
- Sample questions from written tests. It should not be

necessary for an applicant to take the examination to find out the kinds of questions he is likely to encounter.

- An explanation of what options are open to him if he fails. Can he review his paper and discuss it with someone? Does he have a right to file a protest regarding questions for which he disagrees with the board's key? How long must he wait to be reexamined? Under what circumstances will the waiting period be waived?
- What courses of action are open to applicants who are licensed in another state? Is it possible to be licensed on the basis of reciprocity or by endorsement? What information does the board need in order to arrive at a decision?

7. Better Record-keeping: Boards are rightfully accountable to the public and should maintain for a stated period of time detailed records that contain answers to such questions as how many applicants passed or failed, how many were repeaters, how many members of minority groups are licensed, and what disciplinary actions have been taken against licensed and unlicensed persons.

While most boards keep minutes of their meetings, they seldom attempt to summarize their activities in a way that would permit one to judge how well they were doing their job or where they were placing their emphasis. Are they focusing on keeping out unlicensed practitioners? Are they striving to maintain high standards within the licensed group? Are they able to show what they have done about complaints received from the public? Failure by boards to maintain good records and to prepare annual reports based on their activities raises doubts in the public's mind. The annual report issued by the centralized licensing agency in California is a model that other states might well emulate. Microfilming may be one way of keeping otherwise bulky records in a manageable format.

8. More Efficient Operation: Many licensing boards are still operating in the "quill pen" era. This applies to certain aspects of administration, from the way in which applications are handled to the way in which tests are scored and licenses issued. Boards frequently fail to make use of modern data processing technology. Boards should seek the assistance of trained systems analysts in designing and installing more efficient procedures. In so doing, boards can conserve resources that might be put to better use.

9. Research Activities: Licensing boards should include plans for research and development activities in their program budgets. They should seek qualified consultants to help them formulate significant research questions and to design studies that will provide rigorous answers. Perhaps the most pressing area for research is in the field of job analysis and performance level criteria. Other useful questions to be answered include the following: How can examinations be improved? How comparable are the tests used from one administration to the next? How valid are the examinations for various subgroups? To what extent do individual raters agree with one another when they judge performance or grade essay tests?

Research might also be focused on maintaining professional standards among those who are licensed. A study might be conducted to determine how well practitioners keep up with changing technology. The results might have important implications for policy decisions regarding the need for periodic reexamination of all licensees. Without an adequate research program, it is difficult to see how a licensing board can adequately fulfill its responsibility to the public.

10. Improved Communication among Licensing Agencies: In recent years there has been a growing tendency for licensing officials to form groups and associations with their counterparts in other states to share ideas and to work toward common objectives. This trend should be encouraged. Most groups observed do little more than circulate newsletters and hold annual meetings at which members share their frustrations. If these groups are to accomplish anything significant, they need more funds with which to operate, but funds are not likely to be forthcoming from individual state boards or from state licensing agencies until worthwhile action programs are developed.

Existing associations concerned with licensing should be urged to focus first on developing imaginative programs that will be mutually beneficial to all members and then on seeking administrative support to implement these programs. The action program should pose significant problems and propose techniques for dealing with them realistically: How can licensing boards in various states work together to achieve national or regional testing programs? Would periodic workshops on testing help board members do a better job with their own tests? How might existing barriers to interstate mobility be removed? Would model laws facilitate legislative action? These are but a few examples of the mutual problems that might be attacked through collective action. Once a meaningful program has been formed by an association, boards and their financial administrators should allocate funds to support the association's activities.

In 1968 a number of state licensing agencies (not individual state boards) formed a Council on Occupational Licensing to promote better administrative practices among them. Thus far 17 states, each contributing $100 annually towards its support, have joined the Council. Although the Council has tried to respond to inquiries from members and from other groups, its activity and effectiveness have been limited by lack of funds. The Council would seem to have great potential for playing an important role in strengthening licensing practices, but it is unlikely to be able to do so without a stronger financial base. The Council should be urged to develop action proposals and a realistic program budget and then to seek financial support from each of its member agencies. The participating states should each contribute to the budget on some equitable pro rata basis.

11. Codes of Ethics: Under what conditions is it permissible for a licensing official to accept gratuities from a group over which he has regulatory power? Can he accept meals, entertainment, plane trips, and similar favors from a union official or a trade association lobbyist? Is there any impropriety involved in a licensing official's seeking favors not for himself but for others, such as some group to which he belongs? The relevance of such questions became increasingly evident in the course of this study, which involved attending meetings and conventions of licensing officials and observing behavior. One convention program encountered lists no fewer than seven receptions, luncheons, and dinners for delegates which were sponsored by trade and professional groups whose members are subject to regulation by some of the very officials who were responsible for planning the convention. Among the sponsors of meals and receptions for licensing officials are associations of cosmetology schools, heating and ventilating contractors, physicians, funeral directors, architects, and pharmaceutical manufacturers.

Solicitation or acceptance of donations from groups over which regulatory agencies have jurisdiction seems wholly inappropriate. Such acceptance betrays a lack of sensitivity to the essentially public nature of the regulatory agencies. It seems to underscore the charge, so frequently voiced, that the licensing apparatus is industry-oriented and that it tends to look out for the interests of the occupational group rather than for those of the public. What is even more disquieting is the fact that in the case of the officials who planned the convention just mentioned, the officials seem to see nothing improper in soliciting contributions from trade associations; in the instance cited they would hardly have published the list of donors in the program if they thought otherwise.

A broadly based committee from all segments of occupational licensing should be constituted—possibly under the auspices of the Council of State Governments—to examine carefully all aspects of the problem of ethics. A code of ethics, including a casebook of illustrative situations, could be developed to provide guidelines to licensing officials at all levels when they are faced with problems of the type discussed.

STATE GOVERNMENTS

Elected officials in various states, especially members of state legislatures, must accept much of the responsibility for the present chaotic state of occupational licensing. These officials have been all too ready to accommodate special interest groups seeking licensure, often accepting uncritically the legislation as drafted by trade associations and professional organizations. The end result, in many states, has been a hodgepodge of licenses with little consistency as to requirements, structure, or underlying rationale.

Once established, licensing agencies seem to have a life of their own, especially where boards have been given substantial autonomy. Most legislators and state executives have been lax about requiring boards to report in detail on their activities. Even when reports are required, they tend to be perfunctory. Little evidence that such reports were used by anyone to evaluate how well the boards fulfill their function of protecting the public was uncovered.

Before a state can put its licensing house in order, a comprehensive survey needs to be conducted of the situation as it presently exists. Detailed information is needed about which occupations are licensed by each state and by individual municipalities; about the legislative authority under which various boards operate; about the ways in which they conduct their business, including finances and the costs of conducting programs; about the number of people licensed in various categories; about the ways in which competency is tested; about the pass-fail rates for different segments of the population; and about the ways in which complaints from the public, inspection activities, and disciplinary action are handled. The report of the Commission of California State Organization and Economy [11] and the report of the New Jersey Commission on Professional and Occupational Licensing [25] provide useful guidelines for fact-finding surveys of the type advocated.

A study commission should be established in each state. It should be given a broad mandate to bring in recommendations that will help the legislature to reassess the role and function of licensing within the state and to establish effective guidelines for the future organization and operation of licensing. Such a commission will obviously need adequate budgetary support and an independent staff to gather data, prepare for hearings, and assemble an action-oriented report.

Beyond gathering data about the status of existing licensing programs, each state commission should address itself to a number of important questions which have policy implications. Some of the questions and suggested solutions regarding problems and issues that are implicit in the questions are posed here. Conditions, especially the attitudes and values of those who must act on the recommendations, vary from state to state; thus only tentative answers to some of these questions can be proposed. Neither the questions nor the answers are intended to be all-inclusive. They are intended merely to provide a point of departure from which each commission may move to develop unique and creative solutions that will satisfy the needs of the citizenry within its state.

1. What criteria should govern the licensing of new occupations? At nearly every legislative session, state law-makers receive requests to license new occupations. Decisions regarding such requests are usually made on an ad hoc basis without recourse to meaningful criteria or an overall rationale. The only way to stop the proliferation of new licenses and new licensing agencies is to formulate standards that can be applied to new as well as to already licensed occupations, based on criteria such as the following:

- The only valid reason for licensing is to protect public health, safety, and welfare. The potential for harm should either be demonstrated or easily recognizable. Remote or tenuous arguments should not be accepted.
- No occupation should be licensed if the sole or major

intent is to enhance either the professional prestige or economic status of the occupation.

- Licensing of individuals should not be used if other, simpler methods of regulation would satisfy the need to protect the public. If licensing an establishment or business will suffice, those who work in that establishment need not be licensed. Restaurants are frequently licensed by local health departments, but cooks and waitresses are not.
- Licensing is appropriate when the public has no other way of identifying the competent practitioner and when the potential danger is so great that the public must be protected against incompetents. Under this criterion, the licensing of doctors, dentists, and pharmacists is justified because the average person is not qualified to judge the adequacy of their training. Moreover, the harm that might be done by an incompetent practitioner may be irreversible.

When this criterion is applied to certain existing occupations, doubts may arise about the justification for licensing. If a person sought the services of an incompetent barber, he might receive a bad haircut or an uncomfortable shave. In neither case is the effect irreversible. Moreover, the incompetent barber is not likely to survive in the marketplace. because dissatisfied customers will not return. "But," say the proponents of licensing, "what about the transmission of a scalp disease through the lack of proper sterilization procedures?" It could be argued that the rule which applies to eating establishments applies equally well to barber shops. Restaurants are inspected periodically by sanitarians who work under the jurisdiction of the health department. They have the authority to close any establishment that fails to meet standards established by local boards of health. Such personnel are better equipped to maintain health standards than are barber board inspectors, who would have no special competency in the health field. Of course. barbers themselves, like food handlers, should be required to have periodic medical examinations.

The question goes back to whether it is necessary to license individuals when the objectives of licensing may be achieved just as well or even better by licensing an establishment rather than the individual practitioner.

- Proliferation of licenses should be avoided. Within a given occupation, the number of licensed categories should be held to the minimum necessary to protect the public interest. In the allied health field, for example, many para-professional groups are seeking licensure for narrow subspecialties. One suspects that the reason may have more to do with seeking status for the group concerned than with protecting the public. Undue proliferation of licenses could have serious consequences insofar as the optimal utilization of hospital staffs is concerned. Broad categories, encompassing workers able to carry out a variety of functions, seem mostly to be preferred. On the other hand, problems may arise when an individual is initially licensed under a broad category and subsequently specializes to a point where he is no longer competent to perform in all of the subcategories subsumed under the license. It would not seem to be in the public interest to perpetuate a fiction of general competence when this is no longer the case. One possible solution might be to retain the broad licensing category, but to limit the practice of certain individuals to the subspecialties in which they demonstrate competence on a recertification examination.

- A consideration in deciding whether or not to license relates to the degree of autonomy exercised by the licensed individual. When a person works under the direct supervision of someone who is licensed and has legal responsibility, the need for licensing the subordinate is less compelling than might otherwise be the case. In this connection, there is a need to consider whether journeyman construction workers need to be licensed when the law already requires that they work under the direct supervision of a contractor or master craftsman. In the dental field, a similar question might be raised about the necessity of licensing dental hygienists, since they always work in an office or clinic under the supervision of a dentist who is licensed and accountable for the safety and well-being of the patient.

2. How can the public be assured that all licensed practitioners are competent initially and that they have maintained their skills over time?

It is the responsibility of a licensing agency to assure itself that all who seek licensure meet some minimum standard of competency and that they are able to practice effectively in the occupation.

- No permanent grandfather provision should be included in any licensing law. Instead, the law should provide for a conditional license for those who are currently practicing. All such practitioners would be required to demonstrate their competency by passing an examination within a specified period of time.

- Renewal of all licenses should be contingent upon the demonstration of continuing competency. A competent practitioner who is confident of his ability should certainly be willing to be assessed periodically to demonstrate that he has kept up with his field. A distinction should be made between the periodic reexamination of those actively engaged in an occupation and those who are not active but who continue to renew their licenses because they may decide to resume their practice at some future time. Active practitioners might be given only a brief examination emphasizing new developments. Those who are not active should be required to take a broader examination which would reveal whether or not they were still competent to practice. If there is any doubt, the licensing board should not renew a license until it is satisfied that the applicant would be a safe practitioner.

It is argued by some who object to reexamination that many practitioners focus on specialties and, after the passage of years, would not be able to pass an examination aimed at generalists. If this is truly the case, perhaps consideration should be given to recertification under specialty categories. The practitioner who has not kept up with the field as a whole would have his license endorsed in terms of the specialties in which he is currently working. It makes no sense from the public policy viewpoint for practitioners to claim that they are specialists while the public insists on their retaining licenses which label them as generalists.

Some of the professional groups which oppose recertification by examination believe that it should be sufficient for licensed practitioners to present evidence of continuing education for recertification. This approach would work only if the nature of the "continuing education" were carefully defined and if some mechanism were available to ascertain whether the practitioner had, in fact, satisfied the instructional objectives of the program. Mere attendance at professional meetings would not seem to constitute acceptable evidence that a practitioner has maintained his skills and kept up with important developments in his field.

3. Can requirements which are not directly related to competency or to the protection of the public be eliminated?

Many licensing laws include requirements relating to age, formal education, United States citizenship, literacy, and moral character. Such requirements seldom have any direct bearing on an individual's competency, yet they may serve as a barrier to licensure for certain applicants. They should not be retained without strong justification.

The only legitimate requirements for licensure are probably those relating to training, experience, and demonstrated competence. Even here a word of caution is in order. Groups which sponsor legislation frequently have a vested interest in specifying longer training or experience requirements than are actually necessary. The owners of proprietary schools stand to gain when a long training period is specified. The training requirements embodied in licensing laws should make allowance for individual differences. There is abundant evidence that people differ widely in their learning abilities. One person may derive all the benefit that is to be gained after one or two years of training. Another may not gain as much after five years. Licensing boards should recognize this fact and allow the rapid learner to take a licensing examination whenever he feels that he is ready to do so. The amount of time spent in a school or in apprenticeship may bear little or no relationship to the development of competency. By imposing rigid training and experience requirements, licensing boards may be keeping people from utilizing their full productive capacities. This is clearly not in the public interest. Flexibility would seem to operate to the benefit of all.

Provision should be made for expunging a criminal record after a sentence has been served, and certainly for expunging records of arrests which did not result in conviction. Otherwise, rehabilitated offenders may be forever prevented from seeking employment in a licensed occupation.

4. How can the administration of licensing programs be improved?

The need for better administrative procedures is readily apparent when one visits a licensing board office and observes the often archaic procedures that are being used for processing applications, accounting for funds, scoring tests, issuing licenses, and handling renewals.

Those states and municipalities which have fully autonomous decentralized licensing agencies tend to be more backward in their business operations than those under the administrative control of a centralized agency. The centralization of licensing within a single state agency seems to have much to commend it. Such an agency can help to reduce waste and duplication by providing certain common services to all boards. These might include answering routine inquiries, collecting fees, maintaining records, administering and scoring written tests, and issuing both original licenses and renewals.

In states which have centralized their licensing activities, boards concerned with specific occupations continue to deal with those aspects of licensing that call for a knowledge of a given occupation. This usually includes reviewing experience, setting examination specifications, preparing test questions, administering and grading performance tests, hearing appeals of applicants, and dealing with complaints against licensed practitioners. The boards are responsible to the head of the licensing agency for the conduct of their affairs. They must operate within policy guidelines established by the central agency and must provide detailed reports covering all aspects of their work.

Another important advantage of the centralized agency is the likelihood that more detailed information about various occupations will be available to manpower officials, educators, and guidance personnel. It is important that such people be able to ascertain the supply of license holders in various specialities—how many apply, how many fail, and to what extent these specialities are open or closed to minority groups. The structure of the licensing process plays a significant role in determining the quantity and quality of data available. In states with autonomous boards, meaningful data on which to base analytical studies were generally lacking because of the fact that no one was charged with the responsibility of collecting and storing information for various boards.

5. In what way can the operation of licensing boards be made more equitable?

   As presently constituted, most licensing boards perform the functions of prosecutor, judge, and jury in disciplinary cases involving licensed practitioners. Each board is also the sole judge of its actions with respect to the licensing of new applicants. If a practitioner or applicant is dissatisfied with the decision of the board, his only alternative is, in most cases, to seek recourse in the courts. This is an expensive and time-consuming process that few applicants can pursue. A number of licensing board officials interpreted the absence of legal action as a sign that applicants were generally satisfied with the way their grievances had been handled. While no evidence to the contrary was uncovered, it would seem that an equally tenable hypothesis is that the courts are seldom used because (1) applicants fear reprisals and would rather suffer in silence and keep trying than run the risk of alienating the establishment and (2) they lack the resources to engage in prolonged litigation. Moreover, time is on the side of the board. If an applicant were to win a verdict in a lower court, the board would in all likelihood appeal to a higher court. Such litigation can take years to resolve. In the meantime, the individual would not be able to earn a livelihood in his chosen occupation.

In its study of licensing board operations, the New Jersey Commission on Professional and Occupational Licensing found inequities in the way disciplinary actions involving practitioners were handled. After reviewing the procedure followed in New Jersey, the Commission stated in its report:

...the Commission finds merit in the reasoning that experience and knowledge in a given profession are essential in determining such matters as qualification standards and examination content. It does not, however, find any compelling reasons for placing the enforcement responsibilities in the hands of the practitioners being licensed. The record of disciplinary actions by most boards indicates that the present system of self-regulation produces a minimal number of cases in total, a majority of which are against persons not licensed.

Further, the present system requires the licensing board to be investigator, prosecutor, judge, and jury. The opportunity for misuse of power under this system is too great.

The Commission recommends that the power to discipline be transferred to hearing officers appointed by the Attorney General. The hearing officers would be experienced attorneys who would hear all complaints against licensed and unlicensed practitioners and, on the basis of testimony, make determinations. Individual boards would be expected to appear and provide testimony as appropriate.

Citizens having a complaint against any member of a profession or occupation regulated by a board could initiate their complaints with either the relevant licensing board or the Division of Professional Boards. In minor cases in which peer-group judgment and professional "suasion" could be effective, the board may conduct informal hearings and resolve the dispute. In cases in which the matter involves a substantial violation of statutes or regulations, the board shall refer such cases to a hearing officer. In any cases in which the licensing board dismisses a complaint either without an informal hearing or after such a hearing, the citizen may appeal the action of the board to a hearing officer.

The hearing officer, either in the case of a referral from a professional or occupational board or in the case of a complaint from a citizen to the Division of Professional Boards, shall decide whether or not the facts warrant a hearing, formal or informal. In the case of an appeal from an action of a licensing board, the hearing officer shall review the law and the facts de novo.

There should be a method of making appeal of the decision of a hearing officer less costly and cumbersome than going to the Appellate Division of the Superior Court. The Commission recommends the establishment of a Professional Appeal Board in the Department of Law and Public Safety. This Board would hear appeals of decisions made by the hearing officers. The board would consist of three members appointed by the Attorney General, at least one of whom would be a licensed practitioner of the profession or occupation in question. Appeals from the decisions of the Professional Appeal Board would be taken to the Appellate Division of the Superior Court. 25, p. 68-69

The Commission's analysis of the problem and its proposed solution are commendable. The suggested use of experienced hearing examiners, functioning under quasi-judicial procedural ground rules, should provide a substantial degree of protection to complainants against the licensing board and defendents accused by the board of violating either statutes or regulations. Whether the licensing examiners should be appointed by the attorney general or function under the supervision of an occupational and professional review board is a matter that would need further study. However, there can be no doubt that a review agency of some sort is urgently needed and the type proposed by the New Jersey Commission appears to be a very reasonable arrangement. Each individual would have an administrative avenue through which to seek relief before being required to enter the courts.

6. In what ways can fiscal control be improved?

States differ widely in the way they finance the activities of licensing boards and in the extent to which fiscal controls are exercised. In some states, the various licensing boards must operate on income derived from license fees. In others, all licensing activities are supported by the general budget with all income from licensing going into a general fund. Under the former approach, boards tend to think of the income derived from fees as their money and plan their activities accordingly. The amount available may be insufficient to support an adequate program or it may be well in excess of what the program requires. A board may decide to use its funds to build a specialized testing facility which might be used only a few days a month. A number of such independent actions could lead to needless duplication of facilities. A better solution would seem to be the development of a common facility that would serve the needs of several boards or the creation of a network of decentralized facilities that would make it more convenient for the applicant to be tested.

The concept that income derived from licensing fees should pay for the operation of the licensing program is objectionable. If licensing is supposed to protect the public, then the public should pay for the cost of implementing a sound licensing program. Licensing fees should not be thought of as a special tax to be levied on practitioners of an occupation. Moreover, if a legislature has decreed that it is in the public interest that practitioners be licensed, how can it then declare that licensing shall be carried out only if there is a sufficient number of candidates to support the cost of testing and other program operations? The folly of this rationale is exemplified by the decision of one board to stop giving examinations to a particular group because there had not been a sufficient number of applicants during the previous year to cover the cost of preparing and administering the test.

Every licensing agency should be required to submit a program budget and clearly indicate its objectives and its plans for achieving these objectives. The budget should be subject to review, approval, and postaudit in exactly the same way as that applied to any other state-supported activity. All income from the program should go into a general fund. In this way all licensing agencies would be assured of the support they need. Larger agencies would not be allowed to live extravagantly while smaller agencies were handicapped by lack of funds.

7. How can the public interest best be represented on licensing boards?

The obvious way to provide for public representation on licensing boards would be to have the governor appoint one or more laymen to serve on such boards in order to represent the public. The New Jersey Commission on Professional and Occupational Licensing took this approach, and efforts are under way in other states to achieve similar reforms. California, which already had one public member on most of its boards in 1970, has since increased the public representation to two members. This approach may not be the answer. One of the reasons for suspicion is the very equanimity with which the suggestion has been received by associations representing licensed occupations. In New Jersey, when the legislation to include a public member on each board was introduced, a leader of the state assembly was quoted by the press as saying that the proposal "is definitely O.K." He called it "another phase of consumer protection" and said that there is not much opposition to it among committee members. The same article asserted that strong opposition was developing against another proposal that would add one representative of the State Department to each board. The same assemblyman was also quoted as saying that his committee was "concerned" that this might enable the governor "to exert undue influence" over licensing boards.

When the two ideas just cited are placed in juxtaposition, one begins to understand why the concept of a public member on licensing boards is acceptable while that of a state agency representative meets with opposition. As a layman, the public member usually lacks the technical competence to participate in board deliberations, and his presence on the board cannot materially alter a board decision because he can always be outvoted. Moreover, the public member is unlikely to have an organized constituency to which he can turn for support or a power base from which to exert leverage on other board members when he feels that they are not acting in the public interest.

A state agency representative, by contrast, cannot be as readily bypassed. First, he is likely to be technically competent in the field concerned. He might be an engineer or a public health official. With a background of technical expertise and experience, he can participate in discussions and raise questions related to the public interest. He may also be able to see implications and ramifications of a proposed board action that might not be apparent to a lay representative. If he needs additional technical support, he has access to many specialists in his own agency and in other parts of the state government. Finally, if the board pursues a course of action he considers detrimental to the public interest, he can communicate his concerns to his agency head and, through him, to the chief executive. The awareness that their actions might be challenged could, of itself, cause the members of a licensing board to act more responsibly than might otherwise be the case.

8. What can be done to facilitate both interstate and intrastate mobility?

Parochial licensing laws are an anachronism in a highly mobile society where one out of five families changes its place of residence each year. While the right of a state to protect its citizens from incompetent practitioners must be supported, the right of all citizens to move freely from place to place and to be able to earn their livelihood without encountering artifical barriers designed mainly to protect the job security of local practitioners must also be affirmed.

Interstate Mobility: Reciprocity has not worked well because licensing boards often take an unnecessarily hard line in honoring the standards and examinations of other states. The very concepts of reciprocity seems faulty. Reciprocity agreements are essentially bilateral compacts between states. Each must agree to honor the other's credentials and to treat the citizens of the other state as its own citizens are treated. An individual should not be penalized or deprived of an opportunity to work because of what his home state will or will not do on behalf of applicants from another state. Each person should be judged on his own qualifications. If he possesses the necessary qualifications, he should be licensed without undue delay.

Licensing by endorsement overcomes many but not all of the difficulties posed by reciprocity. Under this arrangement, a board would honor the license of a practitioner from another state who could demonstrate that he had training or experience that was roughly equivalent to that required by the state in which he desired to be licensed and that he had passed a comparable examination. The difficulty with this approach lies in the definition of "roughly equivalent" and "comparable." However, the problem is not insoluble. A logical first step would be for each legislature to encourage all licensing boards to participate in national examination programs wherever feasible and to support the development of new national examination programs in fields where they do not now exist. This step would help eliminate the testing of those who had already passed a national examination and had been licensed to practice elsewhere.

As far as the comparability of training in two states is concerned, the need for making such determinations after an individual has been an active practitioner for several years seems highly questionable. Imposition of a training requirement is a way of making sure that untrained people will not offer their services to the public before they are prepared to do so. However, after an individual has been practicing in an occupation for several years, the number of hours of training or even the specific courses he took diminish in importance. No evidence was found that there is a significant relationship between the number of hours of training pursued or the specific courses practitioners may have taken five or even ten years earlier and their ability to serve the public in a safe way. Yet some boards will not permit a licensed cosmetologist to practice in their states because she may have had only 1,200 hours of training, while their laws require 1,400 or 1,600 hours. One cosmetology board official acknowledged that his board had recently increased the number of hours of training as a way of discouraging cosmetologists from "up north" from working in his state during the winter months. To qualify for a license, he said, such applicants would have to return to school for additional hours of training no matter how good they were or how long they had been practitioners.

Unnecessarily stringent experience requirements should also be abolished. The great weakness of the experience requirement seems to be that the quality of the experience is seldom specified. Time on a job may be a convenient criterion but it has serious drawbacks when the purpose of licensing is the protection of the public. Greater stress should be placed on the use of valid competency examinations rather than on arbitrary standards related to training or experience. At the very least, experience and training requirements should be carefully redefined to make them more specific and thus more meaningful.

Intrastate Mobility: The proliferation of licensing by municipalities can rarely be justified, for if it is really crucial that an occupation be licensed to protect the public, it is difficult in most cases to see why it should not be licensed everywhere, rather than only in selected communities.

Some municipal governing bodies seem even more prone that state legislatures to accede to the appeals from special interest groups for licensure. How else can one explain the phenomenon of licensing such occupations as burglar alarm and fire alarm installation, master television antenna installation, water conditioner and lawn sprinkler installation, and low-voltage communication systems installion? How is it that many communities survive without licensing motion picture projectionists, but cities like Los Angeles, Tampa, Chicago, and New York feel that public safety necessitates such licensing? In the construction field, specialty subcontractors are now being licensed for such work as excavating and grading, landscaping, roofing, painting and decorating, and fence constructing in some communities, but not in many others.

In all likelihood, the only way to limit the spread of local licensing would be for the states to preempt the field and to allow no local licensing of occupations except for revenue purposes. If a valid case can be made for controlling an occupation, it would seem logical that it should apply throughout the state, or nation, not only in certain communities.

9. In what way can licensing power be used to support the state's policies relating to nondiscrimination.

Licensing agencies should use their powers to support the non-discrimination policies of the state and federal governments by exerting pressure on licensed employers or establishments that engage in discriminatory practices.

In response to the urgings of the Fair Employment Practices Commission in California, the barber board there was successful in eliminating segregation in barber colleges. As a result of similar pressure, the cosmetology board in that state began to require that schools of cosmetology teach all students hair straightening so that, in the future, no cosmetologist could plead lack of training as an excuse for not providing services to Negro customers. These are just two examples of how intervention by licensing boards helped to facilitate social change.

It would seem that all who benefit from licensing have a social obligation to operate within the letter and spirit of the laws which prohibit discrimination. Indifference to public policy cannot and should not be tolerated. Part of the reporting requirement mandated by the legislature should include full details as to what each licensing board has accomplished to further equality of opportunity and what specific actions have been taken to eliminate discriminatory practices in the occupation involved.

Existing fair employment practices legislation may need to be amended to grant the F.E.P.C. specific authority to investigate and act on complaints regarding alleged discrimination by licensing agencies. In several states where inquiries were made about cases that might involve discrimination in licensing, the reply was that such complaints were not accepted by the state F.E.P.C. agency because no specific act of discrimination on the part of an employer could be cited by the complainant. Such a posture seems shortsighted because discrimination by a licensing agency may have a greater impact on an individual's employment opportunities than the discriminatory action of a single employer. In the latter case, there is always the possibility that the minority group member who has been discriminated against by an employer may be able to find employment elsewhere. However, if a biased or insensitive board has denied him an opportunity to obtain a license, no employer may hire him no matter how much he may wish to do so. It is to counteract possible discrimination by boards, or their acquiescence in discriminatory practices by others, that state F.E.P.C. groups should be given specific authority to investigate and to take appropriate action in matters relating to licensing.

Expunging of arrest records which did not lead to convictions should also help minority group members, since Negroes are disproportionately subjected to such arrests.

10. What role should the state department of education play in training programs for licensed occupations?

Schools offering training in licensed occupations and teachers in such schools should be regulated by the state department of education rather than by the board which licenses practitioners in each occupation. In several fields, notably barbering, cosmetology, practical nursing, and dental hygiene, the licensing agency usually has the power under its legislative mandate to set the criteria and standards for the physical plant, the qualifications of teachers, the duration of training, and even minute details of the curriculum. When one considers the composition of licensing boards in these occupations, one cannot help asking, "What qualifications do board members have as educators? What do they know about facility standards? About teacher competency? About curriculum?" There is little in the background of most board members that would qualify them in these fields. One might even question the wisdom of including on licensing boards the owners of proprietary schools who have an economic interest in such matters as the duration of training or the requirement that a student who fails a licensing examination must return to the school for additional training at a fee.

Legislative leaders should move to place all vocational schools, including those in licensed occupations, under the supervision of the state department of education. There seems to be no good reason why the same standards that apply to public vocational programs should not also apply to proprietary programs. The present methods used by state agencies for certifying teachers in occupational programs are far from satisfactory. However,the answer lies in strengthening the role of the state agencies, not in fragmenting it through the allocation of certain functions to licensing boards.

PROFESSIONAL AND TRADE GROUPS

Professional and trade groups have played a major role in bringing much of existing licensing legislation into being. They have, more often than not, been the instigators of the efforts to achieve licensing. Their lawyers have frequently prepared licensing legislation, and lobbyists, paid for from organizational funds, have worked vigorously for its passage. Equally significant has been the role of professional and trade groups in blocking legislation not desired by their members and in preventing changes not deemed to be in the best interest of their own group.

Because of their long history of success in bending the legislative process to serve their own ends, trade groups may be expected to oppose strongly any effort to modify the status quo in ways that might divide their power or alter the existing balance among factions.

The likelihood of effecting change would be greatly enhanced if the national leadership in the various trades and professions that are subject to licensing would support efforts for constructive changes. In the past, the only changes likely to win support of state and local leaders were those that were self-initiated, There have been numerous efforts by state groups to raise standards by making education and training requirements more stringent, by making the experience requirement longer, and by making examinations more rigorous. The justification for higher standards is always said to be "the public interest," although it can seldom be shown that the public was actually harmed by the earlier standards.

It is ironic that the very groups which insist on higher standards for newcomers to an occupation should take the vigorous stands they do against reexamination of those already licensed. It appears that a genuine concern for protection of the public would demand that all licensed practitioners demonstrate periodically that they have kept abreast of new developments in the field and have maintained their skills. Licensing boards have usually been reluctant to act in this area, possibly because they realize that such action would be likely to provoke the opposition of trade and professional groups; those they are supposed to regulate.

Perhaps it is unrealistic to expect leaders of trade and professional groups to support changes in the status quo. However, leaders of these groups should not be too confident of their invulnerability. The time is approaching when citizen groups such as Common Cause are likely to train their sights on occupations and professions which are using the mantle of licensing to serve their own ends rather than the public interest.

It remains to be seen whether the leaders of trade and professional groups will be able to sense change in the public climate and communicate the significance of the change to their constituents. It is to be hoped that some of these leaders will have the vision and the courage to get behind those reforms that would make licensing agencies more responsive to the public interest and more accountable to the public for their activities. It is hardly to be expected that leaders of trade and professional groups will embrace each proposed reform uncritically. They have a responsibility, as does each elected legislator and executive, to weigh the merits of suggestions made. There may indeed be good reason for rejecting certain proposals and for modifying others. However, rejecting or resisting every proposal for change is no longer tenable. To do so will be to invite a public outcry that could result in changes far more pervasive than those that have been suggested.

It is to be hoped that various trade and professional groups will sponsor workshops for state and local leaders to acquaint them with trends and issues in the licensing field and to encourage them to think positively and creatively about changes that will make their own role more responsive to the needs of society.

COMMUNITY AND SCHOOL GROUPS

Community groups, including those involved in vocational education, should make known their support of those changes that will humanize the licensing process and make it more responsive to the needs and problems of individuals, especially those from disadvantaged backgrounds.

Community groups should consider the following specific recommendations which relate mainly to advice they can give and services they can render to candidates seeking licensing within the present structure:

1. Someone who has a good grasp of licensing in general should be designated to work with individuals seeking licensing in specific occupations. That individual should help the applicant to become familiar with the requirements and procedures of a specific board. As a first step, he should help the applicant to obtain a copy of the law. Regulations should be explained in detail and a checklist prepared of steps that need to be taken to meet various requirements.

2. The applicant should be assisted in completing the application and securing the necessary documentation. If there are questions relating to arrests, the applicant should be advised to answer truthfully. Failure to do so may be used as a basis for disqualifying him. If the individual was arrested but never convicted, this fact should be made clear. If the individual was convicted, affidavits should be attached to show that he has been rehabilitated.

3. The applicant should be given as much assistance as possible in preparing for the examination

- The applicant should be encouraged to inquire at the office of the board or from a board representative whether there are any sample questions available and whether the board can provide a list of reference materials that he can study.
- Arrangements should be made for the applicant to talk with one or more persons who have taken the examination recently to learn as much as he can about what he may expect on the examination and how he can best prepare for it.
- If possible, an applicant should be provided with practice questions of the type the board is likely to ask. This is especially important if he has not had much experience with tests. If

the board asks essay questions, someone who knows the field should critique the answers to the practice questions, show him how to organize his responses, and caution him against giving answers that are more elaborate than necessary. If true-false or multiple-choice questions are used, the applicant should be given practice in answering these questions. Any questions answered incorrectly should be discussed. The importance of selecting the best answer even though other alternatives may also be correct should be explained.

4. If a candidate is not proficient in English, he should be assisted in preparing a formal request to have the licensing test administered orally or through an interpreter. A number of boards already make provision for candidates with language handicaps and others have indicated a willingness to do so.
5. A person who fails the licensing examination should be encouraged to seek information from the board regarding his specific areas of weakness so that he can better prepare himself for the next examination. Some boards allow candidates to meet with the executive secretary or with a board member to go over the test, but the availability of such consultation is seldom publicized. Those who now take advantage of

this opportunity are often told exactly where they lost credit and what sort of answer was expected. A review of this type can be very helpful to a candidate when he takes the test again. A candidate who passes several parts of the test but fails one or two parts should ask whether it is necessary to retake the entire examination or only the parts he failed.

6. Although a certain waiting period after a failure may be specified, many boards are lenient about permitting an applicant to retake the examination. Candidates should not hesitate to ask permission to retake the examination as soon as they are ready. They may find that they do not need to wait as long as the full normal period.
7. If a board persists in disqualifying an applicant who appears to be qualified, a careful study should be made of possible routes of appeal. Sometimes it is possible to obtain a review of the applicant's qualifications or of his test paper by the full board. A carefully prepared appeal may call attention to arbitrary standards used in evaluating experience or in judging answers to test questions. A board may decide to accept a borderline applicant about whom there was reasonable doubt in his favor rather than face the prospect of having to defend its examination or procedures

before some higher authority. In some places, one may seek relief from the director of the licensing agency, from an appeals board, or from the courts.

Although few instances in which applicants had challenged a board in the courts on its examination procedures were encountered—most of the lawsuits had to do with the suspension or revocation of licenses—licensing boards appear to be vulnerable on the matter of examinations. In New York City, for example, police officers seeking promotion to higher ranks have successfully challenged the answer key used by the Department of Personnel in establishing the eligibility lists. The New York State courts have ruled that unless the Civil Service Commission can demonstrate that its keyed answer is clearly superior to that of the candidate, full credit must be given to the alternate answer.[4]

FEDERAL GOVERNMENT

Historically the federal government has maintained a "hands off" policy with respect to occupational licensing. Except for a limited number of occupations involving transportation and communication, this field has been regarded as the exclusive domain of the states. While this attitude may have been justified in an earlier era, conditions have changed so drastically that the whole philosophy underlying state control over licensing needs to be reexamined. At one time workers in one part of the country had no way of finding out about job openings in other regions except by word of mouth, advertisements in trade publications, or the activities of a recruiter. Moving from one region to another was a formidable undertaking. Today there is vastly improved communication about manpower needs. There is a move toward the development of a nationwide job bank that will enable employment counselors in every part of the country to make known the job openings and job requirements in their localities and at the same time to learn about the opportunities that exist in other regions. The advent of low-cost air travel, interstate highway systems, mobile homes, and the like have greatly facilitated the mobility of workers. It is no longer tenable to regard occupational licensing as strictly a matter for the states and of no concern to the national government. The same factors that impelled the federal government to intercede in public education, health, crime control, and manpower training now also compel the federal government to recognize the critical role of licensing in manpower utilization and to take positive steps to remove the barriers that archaic licensing laws often impose on the free movement of skilled workers from one region to another.

In considering the possible nature and extent of federal involvement in occupational licensing, one must start with the assumption that, since licensing is well established in the states, every effort should be made to bring about necessary changes within the existing structure. If ways can be found to modify existing laws and practices in the various states so that they support rather than interfere with national manpower policies, there may be no need for direct federal intervention. However, if the process of introducing needed changes on a state-by-state basis proves to be too slow and cumbersome, there may be no alternative other than congressional action to create some type of federal licensing system.

The progression of events recommended for consideration by the federal government would involve the following steps:

1. Establish a national information center for licensed occupations.

There is an urgent need for better information about all aspects of licensing at the federal level. Dependable data are needed to guide the formulation of manpower policies and for the effective implementation of these policies. At the same time there is a need to disseminate up-to-date information about licensing requirements to workers, employers, counselors, and curriculum specialists. All these people have been kept in the dark about licensing for too long. Corrective action is called for without delay.

The need for a solid information base on which to plan future action was recognized by the authors of the Report on Licensure and Related Health Personnel Credentialing, which was prepared by the Department of Health, Education, and Welfare in response to a congressional mandate. The report recommended that "the Department must undertake a continuing and systematic assessment of legislative, administrative, and organizational activity in this area... Where information already exists, it must be made available on a current basis; where no systematic data has yet been compiled, as is the case in numerous instances in the field, efforts shall be made in cooperation with all interested parties to collect the necessary data."[26,p.71] While a dependable data base is obviously needed, it might be less than optimum if the data collection process was fragmented so that one agency was responsible for collecting information about health occupations, another for the construction trades, and still others for law enforcement, transportation, or service occupations.

A central clearinghouse seems most desirable. There should be a single agency within the federal structure which can serve as a focal point for data collection and information dissemination. This does not preclude occupational subdivisions within the central clearinghouse, but it does preclude every federal agency going its own way. There would be certain economies in a common data collection mechanism and other benefits to be derived from planning data collection in a way that insures comparability. If the information that is collected is to play a significant role in shaping national manpower policies, it needs to be analyzed and integrated within a broad rather than a narrow framework.

Apart from the benefits that a clearinghouse on occupational licensing would have for manpower specialists and policy planners, enormous benefits should accrue to citizens who need information about licensing in order to make educational plans or to find employment in a new locality. At the present time, information about licensed occupations and licensing requirements is difficult to obtain. Licensing is so decentralized in many states that an individual may encounter considerable difficulty in finding out whether an occupation is licensed and, if it is, which governmental agency can provide him with information about requirements and provide him with the necessary forms.

One might think that by now the United States Training and Employment Service would have compiled information regarding licensing requirements through its network of state employment services. However, such an assumption is unwarranted. State employment service officials in all 50 states were contacted to ascertain whether they had prepared any bulletins, handbooks, or information guides relating to occupations licensed in their respective states. Of the 47 states that responded, only 18 had any type of material relating to licensing. The quality and comprehensiveness of the information varied greatly. Several merely listed the licensed occupations and gave the addresses of the licensing boards involved. Others provided more detailed information such as the code under which each occupation was classified in the *Dictionary of Occupational Titles*; the address of the licensing board for each occupation; the types of licenses issued; and information about fees, prerequisites, and approved schools where training is available. A few handbooks also included information about reciprocity.

One of the tasks of a national information center for licensed occupations would be the dissemination of up-to-date facts about licensing to all the state training and employment services and to other agencies, governmental and nongovernmental, concerned with the guidance and training of young people and adults for the world of work. As a first step, arrangements should be made to include information about licensing in all future editions of the Occupational Outlook Handbook which is issued bi-annually by the United States Department of Labor. If this is not feasible, a special supplement should be prepared so that the information will be readily available in easily usable form.

Because of the present fluidity in the field of occupational licensing and the changes that one may anticipate as a result of the ferment that has been evidenced in certain fields, arrangements should be made to encode all available information about licensed occupations in the computerized job data bank system now being established by many of the state training and employment services. As more and more employment counselors gain access to terminals which are linked to the data bank, it will be possible for them to ascertain not only whether a job is available locally or in another state but also what the licensing requirements may be if the job happens to be one in a licensed occupation.

2. Provide financial support to state licensing agencies which comply with federal guidelines.

A review of the federal role in the operation of state employment service programs suggests that a similar approach in the field of licensing might have a beneficial effect. Federal guidelines should be established for various aspects of licensing under state control. Federal funds should be made available as an inducement to the states to introduce changes in each one's existing structure, legislation, and modus operandi in order to bring them into conformity with the federal guidelines. Funds might be made available to assist the states in converting their licensing programs from a decentralized to a centralized system that would meet certain federal criteria. Funds might also be made available for studies of licensing legislation or for the development of model codes which would enable the states to bring their licensing laws into closer alignment with federal standards. It might seem advisable that certain requirements of questionable value be deleted and that vague language be made more precise. In order to upgrade the quality of the examinations used to assess competency, funds might be made available to strengthen test development staffs and procedures within each state. Encouragement should be given to cooperative action by state boards in test development. States should be urged, or even required, to participate in national examination programs where these exist and are of good quality.

As good equivalency and proficiency tests become available, states should be encouraged to modify their licensure laws so that the results of such tests can be accepted in lieu of rigid educational or experience requirements. Federal funding might also be made contingent upon the establishment of more equitable review and appeal procedures, such as the provision of hearing examiners and the creation of occupational review boards, to safeguard the rights of applicants, practitioners, and the general public.

3. Establish standards for personnel in federally funded programs.

Another way in which the federal government can influence state licensing practices is through its regulations governing the operation of federally funded programs.

Roemer has suggested that any federal program of health insurance should provide

> ...that a physician, dentist, optometrist, podiatrist, nurse, pharmacist, or other professional for whom licensure is required in all states, who is licensed in one state, and meets national standards, be eligible to furnish services in any other state under the program, his permissible scope of practice being governed by the state in which he is practicing; that other professional and nonprofessional personnel, who are licensed in some

> states or not licensed, be authorized to function everywhere if they meet national standards; and that the use of ancillary personnel be authorized in organized settings in accord with national standards.[27]

Roemer has also proposed the development of model licensing codes for health occupations for adoption by the states. While Roemer sees such codes as providing the national standards alluded to, she also recognizes that implementation of national codes would be likely to encounter political and time constraints because each state would have to enact the model code into state law. She notes that efforts to establish personnel standards within the context of a national health insurance law would not be as likely to encounter legal constraints "...because the authority of Congress to override state laws in a program of federal expenditure derives from the power to provide for the general welfare and flows from the Supremacy Clause of the Constitution." It is Roemer's view that although it may take several years for a national health insurance program to be enacted, the approach suggested "should receive high priority as a means of establishing a sound, effective national standard for the regulation of personnel."

The use of federal standards as a vehicle for regulating personnel may be seen in various aspects of the Medicare program. Nursing homes are not eligible for reimbursement under Medicare if they employ charge nurses who were not licensed by examination. Similar strictures have been established for physical therapists.

The Social Security Amendments of 1971, introduced as H.R.1 in the first session, 92nd Congress, provide a program for determining the qualifications for certain health care personnel. Under this provision "...the Secretary of Health, Education, and Welfare would be required to develop and employ proficiency examinations to determine whether health care personnel not otherwise meeting specific formal criteria now included in Medicare regularions have sufficient training, experience, and professional competence to be considered qualified personnel for purposes of the Medicare and Medicaid programs.[31]

4. Establish federal guidelines for apprenticeship training programs in licensed occupations.

Apprenticeship training varies widely as to what should be covered by the training program, how long the training period should be, or what knowledge and skills an apprentice should possess upon the completion of a program. This lack of uniformity has contributed to the chaotic conditions in the licensing field. An individual whose training is considered adequate in one locality will often find that he does not meet the training and experience requirements established by another jurisdiction.

To bring some order out of existing chaos, a federally-sponsored job analysis program should be undertaken to provide a sound basis for developing training programs and evaluating the competency of workers upon completion of training. The goal of the job analysis would be to determine what the performance requirements are at the entry level in various licensed occupations and what the knowledge and skills needed to achieve the desired level of performance are. Reasonable training and experience requirements could then be established with maximum flexibility permitted to encourage a diversity of approaches. Such training standards would protect the trainee by assuring him that he would emerge from an approved program with the skills needed to take an entry-level job. It would also reduce the likelihood of his being required to remain in a training status longer than is actually necessary to reach the desired level of performance. Employers and licensing officials would also benefit from the existence of national standards because they would have greater assurance than they do at present that graduates of approved programs have been exposed to a certain minimum of job-relevant training and experience. In this way, the existence of standards would serve to facilitate the mobility of workers. Retraining of workers whose job skills are no longer in demand in a certain area is another useful function which educators could take on.

If nationally recognized proficiency examinations existed as a means by which trainees could demonstrate that they possess the knowledge and skills required of a journeyman practitioner, not only would such examinations serve to validate the training experience, but they would make it possible for those responsible for training to give greater recognition to individual differences. Rapid learners could advance more quickly than those who were less adept, and this would enable trained workers to enter the labor force earlier than might otherwise be the case.

5. Explore the feasibility of establishing national certification programs in various occupations.

In his Report of Licensing and Related Health Personnel Credentialing, the Secretary of the Department of Health, Education, and Welfare stated that "the Assistant Secretary for Health and Scientific Affairs will undertake to initiate the development of a report exploring the feasibility of establishing a national system of certification for those categories of health personnel for which such certification would be appropriate. Should the development of such a system be considered feasible, the report shall include specific recommendations as to the organizational structure and composition of the body that will be assigned overall governing authority for the system. The report shall outline the steps to be taken to achieve most directly the implementation of the plan."[26]

A study should be initiated without delay by the Secretary of Labor to determine the feasibility of some national system of licensing or certification for workers in the construction trades. Efforts to open up the construction trades to minority workers under the auspices of the Office of Federal Contracts Compliance have met with much resistance and relatively little success. Unions have been unwilling to accept more than a token handful of minority group members into their apprenticeship programs and, as a consequence, few have been able to gain the training and experience required to be licensed. There seems to be little prospect for improvement in this situation as long as control over training and the certification of competence rests with unions and with union-dominated licensing boards.

The creation of a federal licensing or certification programs for various construction trades is a possible way out of the dilemma. Possession of a federal credential in a given occupation would make one eligible to work on any federally-funded project. Since much of the large-scale construction under way in the United States is federally funded, a national credential would give qualified minority workers easier access to construction jobs on colleges, hospitals, housing projects, and public buildings of all types. The federal credential would supersede state or local licenses on all federally-funded projects. Under this approach, state and local licenses would be retained and would continue to apply where no federal funds were involved, but contractors working on federally-financed projects would no longer be restricted to the use of workers holding state or local licenses. A modified form of this idea is already being practiced on military installations where state and local licensing requirements are frequently waived.

In order to implement the concept of federal licensure, the federal government would have to establish realistic job requirements for various construction specialties and devise examinations which would measure an individual's competency to perform the critical tasks involved in the occupation. The essential first step would be a thorough job analysis to establish the skills required to do the work. Union representatives, contractors, engineers, architects, and other relevant groups should be invited to participate in the determination of skill and performance standards. However, the final decision should be based on job analysis data in order to prevent the imposition of unreasonable requirements by any group that may have a vested interest in establishing standards higher than necessary.

Federal standards would provide a basis for planning vocational programs and the licensing developed for them would provide an objective yardstick for evaluating the programs. Schools would not be told how to train but would know what skills a competent worker would be expected to have upon completion of his program. The existence of standards would focus attention on the ability of the individual to do a job rather than on the way in which he acquired his skills.

Under a federal licensing plan, people who are trained in vocational education programs or who acquire skills on non-union jobs or in the military services—such as the Seabees—would be able to take federal competency examinations which would qualify them to work on federally-funded projects regardless of state or local or union restrictions. The examinations, like the curriculum guides developed, would be based on a thorough job analysis. The examinations would include written exercises as well as performance tasks. They would probably be given in a limited number of examination centers where specialized equipment and facilities would be available to insure adequate thoroughness and objectivity in the examination process.

The proposed exploratory study should include provision for ascertaining the number of different licenses and levels of licensing which would be needed. The worker who might be qualified to work on residential construction might not possess the skills required for high-rise construction. A realistic licensing system should take account of such differences.

As part of the exploratory study, it may be desirable for the task force to conduct a pilot study in one occupation in order to identify problems and issues that may arise in establishing knowledge and skill requirements and measures of competency. Such a study would also provide some indication of the complexity of the task, the funding requirements, and the length of time it would take to make a national licensing program operational.

If the recommendations made here are implemented, it should prove possible within a reasonable period of time to convert occupational licensing from an institution fraught with chaotic and inequitable rules, regulations, and requirements and prone to restrictive and exclusionary practices as a result of pressures exerted by special interest groups into an institution which would operate to promote and enhance the development of workers in fields where their skills are in demand to provide for the upgrading, retraining, and mobility of workers, and to make possible in fact protection of the public with regard to health and safety. Legislators and voters should settle for nothing less.

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